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Land Transportation Within Ecuador, 1822-1954.

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LAND TRANSPORTATION WITHIN ECUADOR, 1822-1954

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ABSTRACT

Ecuador is a nation that is clearly divided into regions by the Andean range which traverses it longitudinally. It is generally acknowledged that the inadequate transportation system has had a profound impact on the political and economic history of the republic. No attempt has been made, however, to ascertain what efforts were made at what times in the republican period to bridge the divisions. This study examines, on a combined topical and chronological basis, the problems confronting transportation development and the attempts made to establish major land routes.

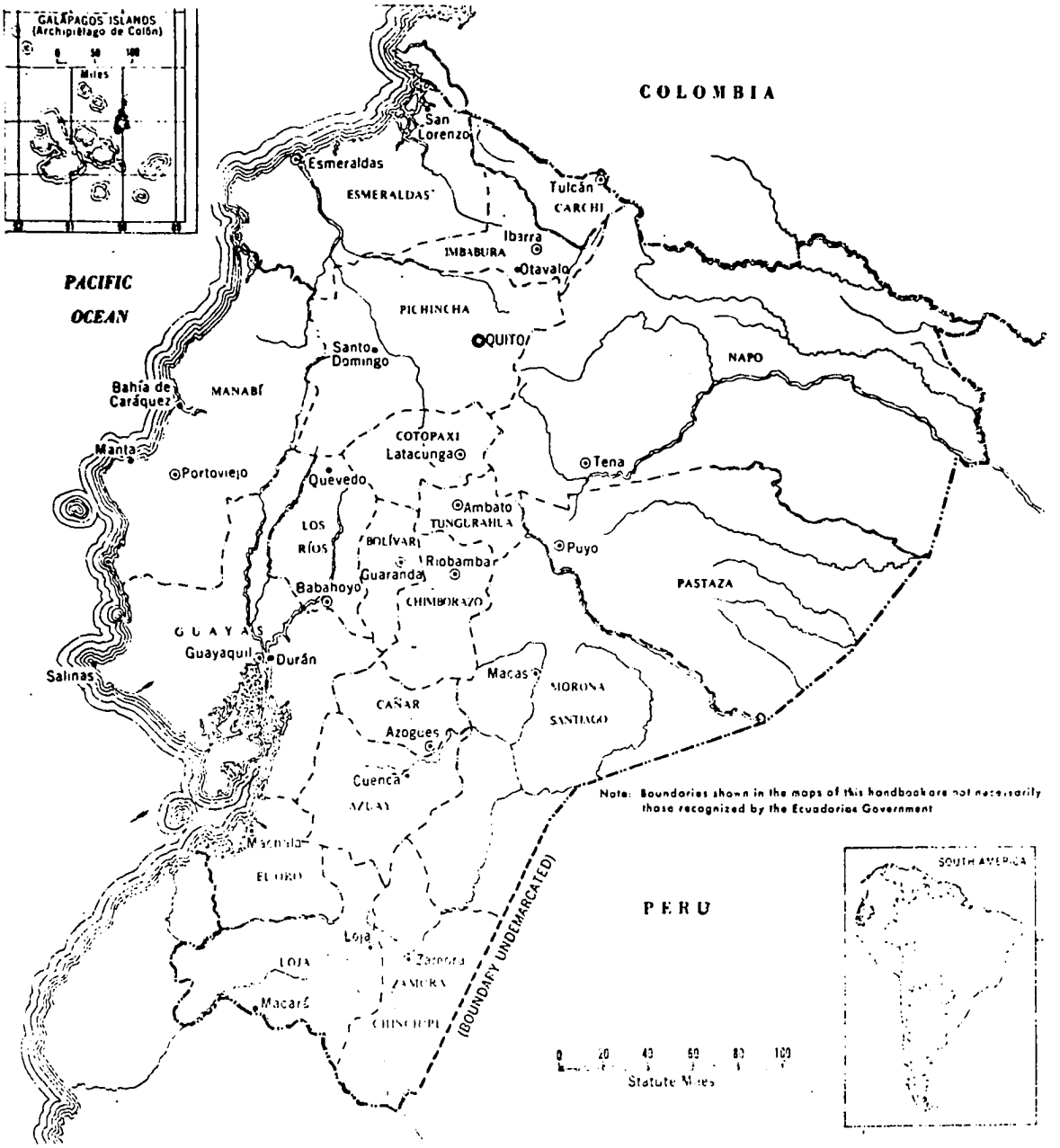
The topography and climate of the land posed a formidable challenge to the building of roads and railways, demanding heavy expenditures for construction and maintenance which the generally unsound economy could rarely meet. In turn, lack of transportation routes hindered the growth of agriculture, commerce, and industry, and fostered political instability.

Although in the days of Inca domination the principal road ran north along the Sierra, by the republican period a westward trend from the highly-populated Sierra to Pacific ports had been established. The northern and southern highland provinces preferred direct access to the coast rather than links with the central provinces. Few serious attempts were made to penetrate the Oriente region.

Roadbuilding projects were numerous in the nineteenth century but amounted to little except for the improvements made to the Guayaquil-Quito route during the administrations of Gabriel García Moreno and Antonio Flores. Towards the end of the century railroad fever obsessed the nation and lines were projected throughout the country. Lack of finances and loss of interest on the part of European contractors after the outbreak of World War I meant that only the Ferrocarril del Sur (Guayaquil-Quito) was completed before mid-twentieth century.

By the 1930s national concern had returned to roadbuilding. Highways were often built where railways already existed. Since the railroads could not compete economically with the new roads, by 1954 two lines had been dismantled and the rest were operating at a deficit. Foreign credit became available around this time to enable roadbuilding to enter a period of rapid expansion based on consistently applied technology.

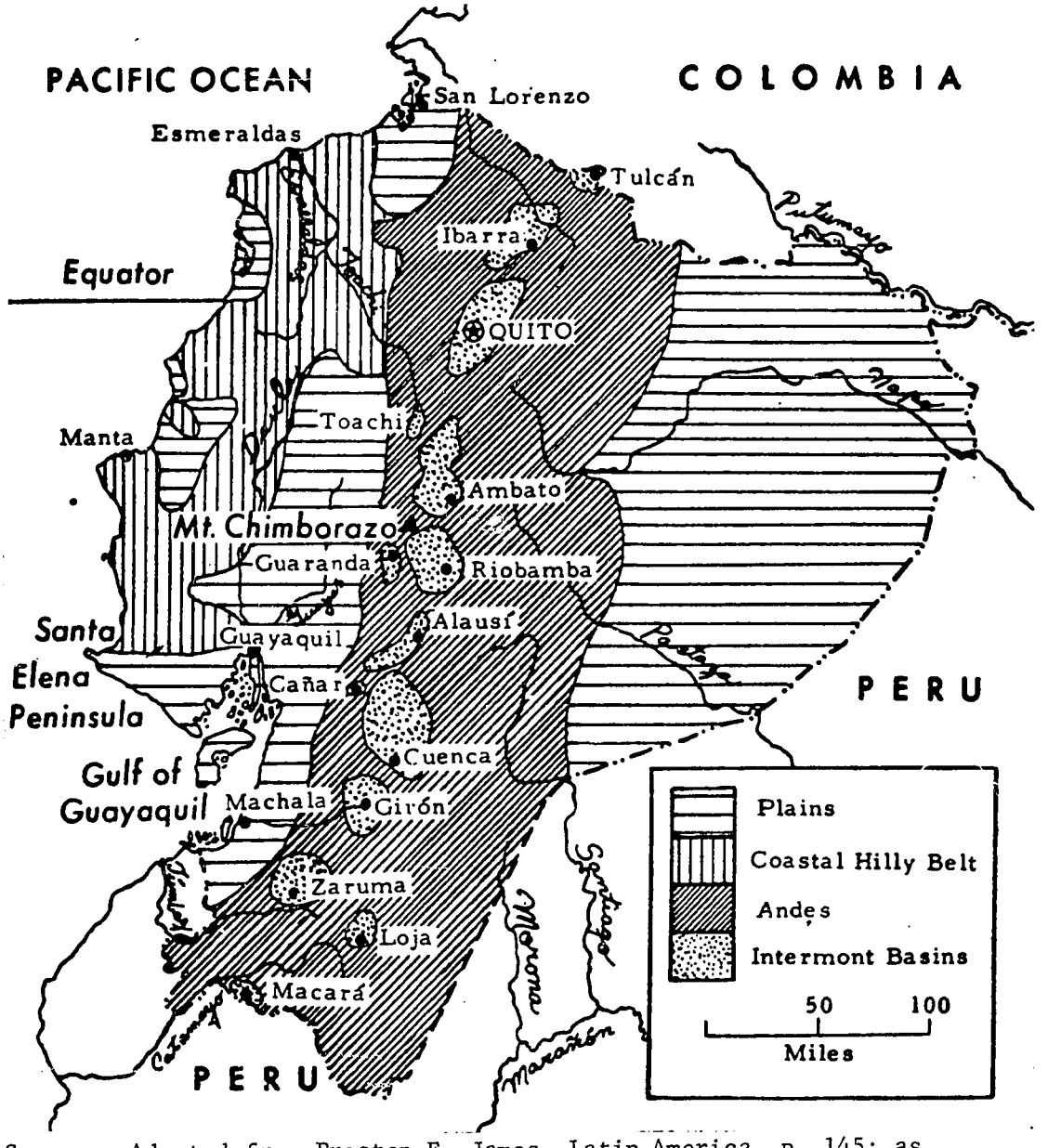
PLATE I



Source: The American University, Area Handbook for Ecuador, p. xi.

ECUADOR

PLATE II



Source: Adapted from Preston E. James, Latin America, p. 145; as found in The American University, Area Handbook for Ecuador, p. 13.

TOPOGRAPHY OF ECUADOR

INTRODUCTION

Transportation routes have long been recognized as forces for change and channels of material progress. It has even been asserted that the total culture of a people is determined by the geography of its roads.[1] In the Republic of Ecuador, however, in the mid-nineteenth century, it was the very absence or abandoned state of transportation routes that inspired most comment and was decried as "la causa primordial del atraso en que se encuentran entre nosotros la agricultura i la industria, i de aquí emana la miseria que cunde de dia en dia, en un pueblo llamado á ser, por mil titulos, poderoso i feliz."[2]

Men and mules toiled over trails that were fit only for mountain goats, or as the Ecuadorians called them, "caminos para pájaros." Movement of goods within the country was limited, and travel, particularly in the rainy season, was a grueling experience. Only those on urgent business or foolhardy foreigners, such as that intrepid world-traveller Ida Pfeiffer or the English mountaineer

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[1]Gonzalo Menéndez Pidal, Los caminos en la historia de España (Madrid: Ediciones Cultura Hispánica, 1951), p. 1.

[2]Manuel Villavicencio, Geografía de la República del Ecuador (New York: Imprenta de Robert Craighead, 1858), p. 151. All quotations will be cited as in the original. Accents were frequently omitted in nineteenth-century Spanish.

Edward Whymper, would hazard their lives on Ecuador's roads.

This deplorable situation had not improved as the century neared its end when an ex-Minister of State published an article entitled "Lo único que falta al Ecuador,"[3] referring to railroads and roads. The first two decades of the twentieth century saw projects for railroads to penetrate most regions of the country, and not long afterwards enthusiasm became general for roads adequate for automobiles. Nevertheless, in 1953 the cry was still the same, and a government report stated: "La falta de medios adecuados de transporte ha sido el obstáculo principal para el desarrollo económico del país."[4]

Sporadic efforts, inspired by national leaders of great energy and determination, did bring some progress. In the 1860's, García Moreno concentrated money and efforts on the Carretera Nacional, a carriage road from Quito to Riobamba. The Vía Flores, which greatly improved the route from Guayaquil to the Sierra, was completed during the presidency of Antonio Flores. Of yet greater economic importance was the railroad from Guayaquil to Quito (Ferrocarril del Sur), which would not have reached the capital in 1908 without the unceasing advocacy of Eloy Alfaro.

Other projects were instigated, a few completed, but

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[3]Carlos R. Tobar, "Lo único que falta al Ecuador," in El Ecuador en Chicago (New York: A. E. Chasmar y Cía., 1894), p. 184.

[4]Ecuador, Ministerio de Obras Públicas, Aspectos básicos para el desarrollo económico del Ecuador (Quito, 1953), p. 7.

political and economic instability impeded continuity in policies. Despite pleas by many, no comprehensive coordinated transportation plan was ever adopted and the different forms of transportation became competitive rather than complementary. Consequently, although in 1953 the government allocation for public works, particularly roadbuilding, was significantly increased and the Ministry began "la construcción técnica y planificada de caminos con criterio de unidad nacional,"[5] by 1954 the Ferrocarril del Sur, the major railroad, was on the verge of collapse. Its annual operating loss leaped to almost four times more than the average of the previous four years, and six months later the vice-president of the railroad admitted that "sin temor de exagerar se puede decir que el estado actual de la empresa es desastroso en todos sus aspectos."[6] Thus, by 1954 it was quite apparent that whereas roadbuilding was entering a period of rapid expansion based on consistently applied technology, the railways had reached the depth of their economic depression.

The classic description of mainland Ecuador begins by stressing regional divisions, and many writers on Ecuadorean history refer to transportation, usually underlining its inadequacies. No attempt has been made, however, to examine closely the topic of transportation development in

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[5]Junta Nacional de Planificación y Coordinación Económica, Evaluación del programa de transportes y comunicaciones (Quito, 1969), p. 1.

[6]Ricardo Astudillo, "Los ferrocarriles ecuatorianos," El Telégrafo (Special edition, February 16, 1959), p. 8.

the republican period, ascertaining what efforts were made at what dates to bridge these divisions by the construction of roads and railways. Nor have any studies discussed in detail the obstacles that confronted the improvement of transportation routes and the adoption of systematic policies. Few secondary sources are available on the subject.

Most of the research for the present study was carried out in the Biblioteca Ecuatoriana "Aurelio Espinosa Polit" in Cotocollao, in the archives of the Ministry of Public Works in Quito, and in the Biblioteca "Carlos Rolando" in Guayaquil. Collections of historical maps were consulted in the Instituto Geográfico Militar and in the Biblioteca Ecuatoriana "Aurelio Espinosa Polit." The author visited other archives and libraries in Ecuador, but found that apart from the archives of the Ferrocarril del Sur they could provide little additional data.

The aim of the research was to find sufficient relevant documentation to permit the composition of a general picture of transportation development within Ecuador. This information could then be related to geographical features, political events, and economic trends, resulting in a better understanding of the role of transportation in the history of this Andean republic.

A perusal of decrees and contracts concerning transportation made the writer aware of the intentions of different administrations. Pertinent newspaper and magazine articles and propagandist pamphlets indicated public demands and reactions to transportation policies. Official reports,

maps, local mongraphs, and travel accounts gave some idea of the actual conditions of communication routes over the years.

Through extensive travel within the country the writer gained first-hand knowledge of the terrain. Discussions with government officials, particularly members of the Junta Nacional de Planificación y Coordinación Económica, and with Sr. J. Augusto Murgueytio, General Secretary of the Empresa de Ferrocarriles del Estado, helped in the formulation of concepts about past events, and provided some insight into the nation's recent transport planning.

This study, then, examines the geographical, political, and economic problems that confronted transportation development within mainland Ecuador from 1822, the year in which Ecuador finally gained its independence from Spain, until 1954. Owing to the decline of the railroad system and the great mass of material available on roadbuilding in the last fifteen or so years, no effort has been made to continue the study beyond this date. The dissertation traces, on a combined chronological and topical basis, the attempts that were made to establish major road and rail routes throughout the republic. The accomplishments of the Indians and Spaniards before this period are reviewed first in that they represent the foundations on which transportation in the republican era was based.

PART I

PRIOR TO INDEPENDENCE

CHAPTER I

PRE-INCA AND INCA TRANSPORTATION

Pre-Inca Transportation

The land now known as Ecuador was settled by many linguistic groups whose culture was adapted to the diversity of their environment, reflecting the threefold division of mainland Ecuador: Coast, Sierra, and Oriente. The Coast was the habitat of tribes expert in navigation who bartered along the coastline on balsa rafts with oar and sails.[1] Dugout canoes and balsas plied the river systems. The tribes of the Sierra, subsisting by sedentary agriculture, moved within the highlands by footpaths that followed the most direct route, even up and down mountains.[2] Today the Indians still use such footpaths (chaqui-ñan) throughout the Sierra. The great stamina and lung capacity demanded by these paths at high altitudes show the physical adaptation to environment of the serrano. Fishing, hunting, and slash-burn agriculture were the way of life for the tribes of the Oriente, and so it remains for many today. The tributaries of the Amazon, supplemented by forest trails, were their communication routes.

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[1]Agustín Zapata Gollán, Caminos de América (Buenos Aires: Emecé Editores, 1945), p. 31.

[2]Villavicencio, Geografía, p. 150.

Migration followed the waterways and valleys. It has been observed that the most culturally advanced groups in the Sierra were those nearest to the natural routes of penetration from the Coast.[3] Trading between these two regions was by two routes: one trail led from Quito through Santo Domingo de los Colorados to the tribes of Esmeraldas and Manabí; another passed through Cajabamba, Alausí, Huigra, and Yaguachi to the Guayas river system.[4] Merchandise of the Coast, such as salt, cotton, shellfish, fish bones, and precious stones was exchanged for hides, textiles, gold, and silver from the Sierra, and cinnamon from the Oriente.[5]

Inca Transportation

The highly organized Inca empire overcame the resistance of the several confederations of tribes in the Sierra in the fifteenth century. By conquest or treaty, the Incas extended their military-economic empire over the 2,500 miles from northern Chile to the south of Colombia. Inca Tupac Yupanqui penetrated into southern Ecuador at some time before 1480. The next Inca, Huayna Capac, carried the conquest north beyond Quito and so formed the fourth area of the empire--Chinchasuyo. Despite expeditions against

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[3]Alfredo Pareja Diezcanseco, Historia del Ecuador (Quito: Editorial Colón, 1962), p. 18.

[4]Jorge I. Moreno, "Preliminares de vialidad en el Ecuador," Boletín Mensual de Obras Públicas, VI, No. 59 (1943), 51.

[5]Pareja Diezcanseco, Historia del Ecuador, p. 20.

tribes in the Oriente (near Loja) and the Coast, Inca domination did not vigorously encompass those regions.[6]

Communication routes for the Incas were primarily strategic, for unification of an empire. Over them travelled the litter-borne Inca, officials and armies, messengers, merchants, and mitimaes[7] on their way to a new area of settlement. Men and llamas were responsible for the movement of all goods. Two major routes linked Cuzco to the north: one followed the Pacific coastline to Túmbez in northern Peru,[8] and the other led between the ranges of the Andes through Cajamarca, Tomebamba,[9] Latacunga, and Quito to Ipiales on the Ecuador-Colombia frontier.[10] Since speed was essential for tactical reasons, the highway followed the most direct convenient route north rather than bothering to search out towns, which could be joined by

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[6]Federico González Suárez, Historia general de la República del Ecuador (7 Vols.; Quito: Imprenta del Clero, 1890), I, 198.

[7]As a measure in consolidating their empire, the Incas forced entire tribes to leave their original location and resettle in a distant region.

[8]González Suárez points out in Historia general, I, 198, that the paso de Huayna Capac along the bank of the River Guayas was not an extension of the famous camino de los llanos (coastal road).

[9]Authorities differ as to whether Tomebamba was the site of present-day Cuenca, or was located in the valley of Yunguilla (Jubones); see A. Iglesias, "Estudio de la ubicación geográfica de la ciudad de Tomebamba," Revista del Centro de Estudios Históricos y Geográficos de Cuenca, X, No. 37 (1942), 1-19.

[10]Louis Baudin, A Socialist Empire: The Incas of Peru, trans. by Katherine Woods, ed. by Arthur Goddard (Princeton, New Jersey: D. Van Nostrand Company, Inc., 1961), p. 148.

branch roads.[11]

The Spaniards, accustomed as they were to the poor tracks of Spain, were amazed by Inca roads and likened them to the roads of the Romans.[12] Mastering all difficulties of construction, the Incas built roads crossing deserts and bleak highlands, over mountains and swamps. In the highlands the route was built of stones covered with pirca, a mixture of gypsum and bitumen; the sections cut from rocks were given an even surface by addition of the same material.[13] Over swamps a causeway was raised, and through cultivated areas low border walls were erected.[14] Opinion has differed over the width of the highway, which, indeed, seems to have varied according to the nature of the terrain. Over flat land the road may have been as wide as fifteen to twenty-five feet, but less over precipitous areas.[15]

Labour for construction and maintenance was not a problem in an authoritarian society which was constantly conquering new tribes. The inca mita system regulated work on such projects. Each province was responsible for its section of road and local officials were kept alert to this

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[11]Menéndez Pidal, Caminos, p. 99.

[12]Baudin, Socialist Empire, p. 147.

[13]Juan de Velasco, Historia del reino de Quito en la América meridional, (3 vols.; Quito: Empresa Editora "El Comercio," 1946), II, 88.

[14]Baudin, Socialist Empire, p. 148.

[15]González Suárez, Historia general, I, 199; Velasco, Reino de Quito, II, 81-82.

responsibility by frequent visits of the Inca or his agents.[16]

Some of the bridge types used by the Incas were retained for several centuries after the arrival of the Spaniards.[17] Wooden bridges and stone slabs often crossed narrow streams, while sometimes rock was hewn from beneath to form a rumichaca,[18] such as the famous stone bridge on the border of Ecuador and Colombia. A common type of bridge was the oroya where a cable of agave fibers was suspended across a wide stream or canyon and a large basket holding travellers was pulled back and forth.[19] The tarabita, used over broad swift rivers, was described at length by travellers Jorge Juan and Antonio de Ulloa in the early eighteenth century.[20] It also depended on a cable to which the traveller or animal was strapped and pulled across. The suspension bridge was built by fastening two cables between rocks or masonry abutments; along the length of these cables hung vertical ropes supporting the platform.[21] Anchored rafts and other types of bridge allowed travellers

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[16]Baudin, Socialist Empire, p. 149.

[17]Velasco, Reino de Quito, II, 84.

[18]Ibid., p. 83.

[19]Baudin, Socialist Empire, pp. 151-52.

[20]Jorge Juan and Antonio de Ulloa, Voyage historique de l'Amérique meridionale (2 vols.; Amsterdam and Leipzig: Arkste'e & Markus, 1752), I, 358-59.

[21]Baudin, Socialist Empire, p. 152.

as swift a passage as possible.[22] Upon the inauguration in 1970 of the bridge across the river Guayas, a newspaper article pointed out that, according to Cieza de León, Huayna Capac had been the first to attempt to cross the mile-wide estuary with a bridge.[23] Such was the initiative and engineering prowess of the Incas.

Along the Inca highway palaces, and tambos were built. In his description of the camino real, Cieza de León relates that "tenían á diez leguas y á veinte, . . . , unos palacios suntuosos para los reyes."[24] Tambos, serving as storehouses for food and as shelters, were also located at regular intervals of about four leagues along the route.[25] According to travellers, the tambos of colonial and republican days bore little resemblance to the well-built, amply stocked buildings of the Incas.[26]

Since rapid and frequent communication between Cuzco and the outlying regions was essential to the preservation of an empire, a system was developed for relaying messages as quickly as possible. Chasqui-huasi, like post stages, were erected every half league where two couriers were permanently alert to relay a message, orally or by quipu, to

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[22]Ibid., p. 153.

[23]Jorge Salvador Lara, "Huayna Capac y el puente sobre el Guayas," El Comercio (Quito), September 21, 1970, p. 4.

[24]Pedro Cieza de León, La crónica general del Perú (Lima: Librería e Imprenta Gil, 1924), p. 146.

[25]Ibid., p. 144.

[26]Baudin, Socialist Empire, p. 150.

the next stage.[27] Trained from youth for this work, the chasquis could make incredible speed. Cieza de León reported that news could be carried from Quito to Cuzco in eight days,[28] over a distance which Juan de Velasco estimated at 2,100 miles.[29]

Travellers in later centuries who saw the remains of Inca roads attested to their excellence. D'Orbigny describes "una calzada orillada de piedras labradas, verdadera via romana asi por sus proporciones como por su solidez."[30] Others, however, including the geographer Theodore Wolf, have cast some doubts on the width and surfacing of the Inca highway.[31] Of one thing there seems little doubt: this road, traversing Ecuador from its southern frontier with Peru to its border with Colombia, was in a better condition in its entirety during Inca times than for the next four hundred years.

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[27]Cieza de León, Crónica general, p. 139; Velasco, Reino de Quito, II, 83.

[28]Cieza de León, Crónica general, p. 146.

[29]Velasco, Reino de Quito, II, 83.

[30]Alcide D'Orbigny, Viaje a las dos Américas (Barcelona: n.p., 1842), I, 92.

[31]Theodore Wolf, Geografía y geología del Ecuador (Leipzig: F. A. Brockhaus, 1892), pp. 581, 583.

CHAPTER II

COLONIAL TRANSPORTATION

The Spanish conquest of Ecuador followed soon after the execution of Atahualpa. After founding the city of Quito in 1534, Sebastián de Benalcázar established a route to the coast and the port town of Guayaquil. As a response to local requests, in 1563 the Audiencia of Quito was created, subject theoretically in political, administrative, and military matters to the Viceroyalty of Peru. When the permanent status of the Viceroyalty of New Granada was confirmed in 1739, the Kingdom of Quito came under its jurisdiction, though practising greater self-government than previously.[1]

Aware of the value of roads for administrative efficiency and the growth of trade, authorities in Spain made some attempts to improve conditions in Spanish America. In 1555, for example, a cedula was sent to the Viceroy, the Marqués de Cañete, ordering him to open roads and build bridges.[2] But it seems that frequently the convenient formula of obedezco pero no cumplo was applied by officials in the colonies to roadbuilding as to some of their other

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[1]John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century: Bureaucratic Politics in the Spanish Empire (Madison: University of Wisconsin Press, 1967), p. 38.

[2]Moreno, "Preliminares de vialidad," p. 51.

duties. Roads were repaired only when some high crown or church official was to pass that way.[3] Consequently, despite legislative measures, the roads suffered severely. In Spain itself there had been little tradition of road-building after the collapse of the Roman Empire. Four-wheeled horsedrawn coaches were used in northern Europe by the end of the fifteenth century but Spanish roads were not good enough for them.[4]

The Spaniards did make some effective contributions to transportation in the New World: the introduction of riding and pack animals--the horse, the donkey, and the mule--and the knowledge of the wheel. Although Indians continued to carry enormous burdens (and still do), the mule changed trading potential. Whereas llamas were limited to burdens of 100 pounds, the sure-footed mule could carry up to 250 pounds and survive the hardships of mountain trails. By 1585 there were 2,000 horses and mules in the valley of Quito.[5] In the province of Chimbo, which bred mules for the treacherous trip between Babahoyo and Riobamba, the number of mules reached 15,000, and probably the number was not far short of this for those on the Naranjal trail from

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[3]L. A. S., "Los primeros empeños de la vialidad ecuatoriana," Boletín Mensual de Obras Públicas, I, Nos. 8-10 (1936), 49.

[4]Menéndez Pidal, Caminos, p. 75.

[5]Phelan, Kingdom of Quito, p. 67.

Guayaquil to Cuenca.[6] The city of Ibarra also counted on many for travellers on their way north to Popayán or south to Quito.[7]

The Spaniards were primarily attracted to areas of gold and silver in the New World. The Kingdom of Quito had little and thus the economy was based rather on agriculture and a "pre-industrial system of manufacturing" textiles.[8] Cotton was grown on the coast and in the province of Quijos, sheep were grazed along the Sierra, and obrajes set up in the major towns.[9] Commerce grew steadily within the colony with the introduction of money to replace barter and the exportation and importation of goods.[10] Textiles were transported from the highlands to Guayaquil for export, and also taken north by land into Popayán and Santa Fe in exchange for gold and European goods, and south into Peru in return for wine and oils.[11] The coastal region included in its exports wood, cattle, and cacao; it received iron, steel, fine cloths, and other products from Europe. To the

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[6]José María Vargas, La economía política del Ecuador durante la colonia (Quito: Editorial Universitaria, 1957), p. 285.

[7]Ibid.

[8]Phelan, Kingdom of Quito, p. 68.

[9]For an account of the textile industry in the Kingdom of Quito in the seventeenth century see Chapter IV, "The Sweatshop of South America," in Phelan, Kingdom of Quito, pp. 66-85.

[10]Vargas, Economía política, p. 279.

[11]Ibid., pp. 279-282.

Sierra the region sent cotton, dried fish, fruits, and some of the imports. The Oriente supplied some gold, storax gum, copal, and quinine for export, and cotton for Quito.[12]

In the early days of the colony, when communication between regions was imperative, a group of soldiers would have to spend weeks crossing the country. In the eighteenth century, the Latin American mail system was set up by the Marqués de Grimaldi, an outstanding minister of Charles III, and Antonio Romero de Tejada was sent to establish the regular postal routes for Quito. The mailboats from Panama and Acapulco reached Paita and mail was sent on to Quito twice a month and continued to Santa Fe. Other routes were started to include all major towns.[13]

In spite of the growing need of good transportation routes, roads were not improved. During the winter season passage was well nigh impossible between the Coast and the Sierra.[14] Travellers related bitterly the hazards of the trails. On mountain slopes they were obliged to struggle through deep mires, wade streams, and toil over camellones.

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[12]Ibid.

[13]Walter L. Bose, "El correo colonial en el Ecuador," Boletín Mensual de Obras Públicas, VI, No. 59 (1943), 128-135.

[14]Francisco José de Caldas, "Viaje de Quito a las costas del Océano Pacífico, por Malbucho, hecho en julio y agosto de 1803," in Obras de Caldas, ed. by Eduardo Posada (Bogotá: Imprenta Nacional, 1912), p. 117; Juan and Ulloa, Voyage historique, p. 294; C. de Gangotena y Jijón, Un proyecto de camino de Quito a Guayaquil en el siglo XVIII (Quito: Tipografía y Encuadernación Salesianas, 1921), p. 3.

The latter were like perilous stairs with enormous muddy hollows as each step; often a mule would be left balanced on his belly on top of the ridge until a hefty push sent mule and rider tumbling forward.[15] At the end of such a day little rest or comfort could be expected. Tambos were crude, unkempt shelters without provisions:

> Son unos parajes tan descubiertos, que no ofrecen abrigo ni acogida alguna si no es los ranchos que arman donde termina la jornada, con una mala cubierta de hojas, bajo la cual queda el Pasajero expuesto a poco menor incomodidad que la del campo razo, de que les resultan enfermedades graves y fatigas insufribles.[16]

It is no wonder that Quito remained a rather isolated kingdom visited by few travellers.

Routes

Administrative ties and Spanish mercantile policies determined the routes of access to the Audiencia of Quito. Although only a few port cities in the Caribbean were permitted to trade directly with Spain, and inter-colonial trade was forbidden, Guayaquil was exempted from this restriction as compensation for many sackings by pirates and fires.[17]

Three routes led into the kingdom.[18] One came over a

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[15]Juan and Ulloa, Voyage historique, pp. 183-84.

[16]Gangotena y Jijón, Proyecto de camino, p. 3.

[17]American University, Foreign Area Studies, Area Handbook for Ecuador (Washington: Government Printing Office, 1966), p. 35.

[18]Dionisio de Alsedo y Herrera, Descripción geográfica de la real Audiencia de Quito (Madrid: Imprenta de Fortanet, 1915), p. 8.

distance of 514 leagues (with a league equivalent to more or less three miles) from the Caribbean port of Cartagena through Santa Fe de Bogotá and the Gobierno of Popayán to Quito. Another covered 200 leagues between Lima and Quito, using part of the Inca highway through Loja and Cuenca.[19] Guayaquil was only 98 leagues by land from Quito, and since travel by sea was more comfortable than overland, to go between Lima and Quito it was preferable to take the route via Guayaquil, as Jorge Juan and Antonio de Ulloa found in 1740.[20]

Major routes within Ecuador were, in fact, few. Apart from the route of the Incas, most trails linked the Coast with the Sierra. From Guayaquil a track led south through Naranjal to Cuenca and on to Loja. To Quito the principal route from Guayaquil was by river to Babahoyo (or Sabaneta in the winter when Babahoyo was flooded), and then overland through Chimbo and Guaranda to meet the Inca highway near Riobamba. Another path, to become the route of the railroad, led to the Sierra via Yaguachi and Alausí.[21] These paths up the mountains were practically impassable when the rains began.

One project for a road for all seasons from Guayaquil to Quito was developed by Miguel Agustín de Olmedo, a merchant of Guayaquil, mayor of Quito, and father of the bard

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[19] Ibid.

[20] Juan and Ulloa, Voyage historique, p. 401.

[21] Ibid., p. 252.

of Junín.[22] After four excursions between 1785 and 1787, he drew up a plan and report saying:

> Será este camino, si se verifica en los términos expuestos, el más breve, el más cómodo y el más franco para todas las estaciones.[23]

However, the estimated expense of 25,000-30,000 pesos was denied, and so the Guayaquil route remained without improvement during colonial days.[24]

Two other routes from the Sierra to port towns, which were both nearer to Panama than Guayaquil, were opened during the colonial period but soon disappeared. One led to Bahía de Caráquez and the other to Esmeraldas.

The road Bahía-Quito was explored by Fray Diego Velasco and contracted to Martín de Fuica by the cabildo of Quito with the approval of the Viceroy.[25] Although Martín de Fuica was drowned, the road was completed by José de Larrázabal in 1624.[26] Until 1629 ships from Panama landed at Bahía, but then trade seems to have been insufficient and the route was abandoned.[27]

Although the coastal area between Bahía de Caráquez

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[22]Gangotena y Jijón, Proyecto de camino, pp. 1-2.

[23]Ibid., p. 9.

[24]Ibid., p. 2.

[25]González Suárez, Historia general, IV, 106.

[26]Ibid.

[27]This is the explanation given by Phelan, Kingdom of Quito, p. 16, but González Suárez, Historia general, IV, 109, suggests that the Manabí road was closed for the same reasons that will be given for the closing of the Esmeraldas road of the same period.

and Barbacoas, known as Esmeraldas, was the first region to be explored by the Spaniards, it long remained outside the Spanish domain. Most of Esmeraldas had become a zambo republic after a cargo of Negro slaves, shipwrecked off the coast, overcame the local Indians and took their women. Although retaining their independence, they were not hostile to the Spaniards and had even sworn nominal allegiance to the Spanish crown.[28]

In the sixteenth century, many expeditions were made to build a road to Esmeraldas and colonize the area.[29] One of the principal motives in founding the town of Ibarra was to encourage the opening of a road to shorten the distance between Quito and Panama. Between 1616 and 1619 the corregidor Pablo Durango Delgadillo built a road from Ibarra to the port of Santiago. However, the Malaba Indians in the interior of the region, a warlike group unlike the zambos, sacked the Spanish settlements and closed the Santiago road. Further efforts were made to restore the route, but the project was finally rejected by the Viceroy on the grounds that it might provide a route for penetration by the Dutch pirates, and that opening up new ports would encourage contraband trade. But these were probably not the only factors involved:

> A estos motivos hay que añadir la contradicción, que, secretamente, hacían los comerciantes de

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[28]Juan and Ulloa, Voyage historique, pp. 293-94.

[29]Phelan relates the story of the road to Esmeraldas in colonial times in Chapter I, "Esmeraldas: The Failure of a Conquest," in Kingdom of Quito, pp. 3-22.

> Guayaquil, á cuyos intereses había de causar perjuicio, sin duda minguna, la formación de un nuevo puerto mucho más cercano á Panamá, y por donde se podría establecer en breve un comercio activo entre las provincias del Norte y los pueblos de Centro América, y áun de Méjico.[30]

The route to Esmeraldas found later advocates, including Jorge Juan and Antonio de Ulloa,[31] but nothing was achieved until Pedro de Maldonado undertook to build a road from Quito, through Cotocollao and Nono, to a port on the River Esmeraldas.[32] A collaborator in the French expedition (1734-40) to measure the arc of the earth, Maldonado was a man of great talent and energy. Unfortunately, he died in London in 1749, after visiting Spain to seek encouragement for his roadbuilding. The Audiencia and the Viceroy did not favour the project and the work of Maldonado was lost.[33]

Further attempts to establish a road to Esmeraldas were made towards the end of the colonial period. As President of the Audiencia (1802-05), the Baron de Carondelet requested the assistance of the Colombian scientist Francisco José de Caldas in selecting a route, since "disputas, papeles, conversaciones, consultas, todo recaía

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[30]González Suárez, Historia general, IV, 39.

[31]Juan and Ulloa, Voyage historique, p. 294.

[32]Neptalí Zúñiga has written a biography of this remarkable Ecuadorean, Pedro Vicente Maldonado, un científico de America (Madrid: Publicaciones Españolas, 1951).

[33]William Bennet Stevenson, A Historical and Descriptive Narrative of Twenty Years Residence in South America (3 vols.; London: Longman, Rees, Orme, Brown and Green, 1829), II, 356.

sobre la elección de los lugares."[34] They resolved to open the Malbucho route to the River Santiago, but the work was not well done, and within three years the trail had become impassable.[35]

The merchants of the north did not abandon any opportunity to propose a road, and in 1809 William Bennet Stevenson, an Anglo-Irishman who was private secretary to the Viceroy Conde Ruis de Castilla (1808-09; 1809-11), was commissioned to examine the route of Maldonado. This route was eighteen to twenty leagues shorter than the Malbucho road.[36] Stevenson was impressed by the potential of the region of Esmeraldas and "its capability of becoming of extensive utility to the mercantile world, of forming the principal entrance to the kingdom of Quito, and of vieing ere long with Guayaquil."[37] His recommendations were not acted upon in colonial days, but when he wrote his memoirs in 1825 he again stressed the importance of the Esmeraldas road:

> From Esmeraldas to Quito goods might be conveyed in six or seven days, during the greater part of the year, while it requires eleven or twelve days from Guayaquil during the dry season, and during the rainy season it is impossible to carry them. I have been rather diffuse on this point, but I consider it one of great importance at present (1825), owing to the changes that have already taken place in this important part of the ex-colonies, not only

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[34]Caldas, "Viaje de Quito," p. 108.

[35]Stevenson, Narrative of Twenty Years Residence, II, 354.

[36]Ibid., pp. 354-56.

[37]Ibid., p. 407.

> so far as regards the communication between the coast and the capital, but because the locality and produce of the province of Esmeraldas constitute it one of those that most deserve the immediate attention of my speculative countrymen.[38]

Thirty years later the English did show an interest in Esmeraldas.[39]

When Stevenson returned to Quito in 1809 he found the revolutionary struggles had begun and the Junta Superior was in control. The Junta was impressed by his enthusiasm and named him Governor of Esmeraldas. With the rapid return to power of the royalists, Stevenson lost his position.[40] Some efforts were made to carry out his recommendations by the last Viceroys, but without much success.[41] So the efforts to link Quito with a port nearer to Panama than Guayaquil failed during the colonial period for reasons that González Suárez labels "cálculos de prudencia mal formados e intereses egoístas reprensibles."[42]

The Spaniards penetrated the eastern region of Ecuador, the Oriente, in quest of gold. Under Gonzalo Pizarro, an expedition set forth in 1540 to find riches in the Selva and instead stumbled upon the Amazon river system, by which Francisco de Orellana eventually made his way to Spain.

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[38] Ibid., pp. 395-96.

[39] See Chapter IX of this dissertation.

[40] José Gabriel Navarro, "Caminos de Quito a Esmeraldas: breve historia de cuatro siglos," Boletín Mensual de Obras Públicas, IV, Nos. 41-46 (1937), 68.

[41] Ibid., p. 69.

[42] González Suárez, Historia general, IV, 39.

Gold miners and missionaries established towns and routes of penetration over the next century. These routes were never more than rough trails by land; navigable rivers were used whenever possible. The first route of any importance was from Loja through Zamora to the River Marañón.[43] Zamora was a centre for gold mining, and was on the route to the Jesuit missions along the Marañón. In the search for a less dangerous approach to their area of activity, the missionaries revived the route of Pizarro from Quito through Papallacta and Archidona to the River Napo, and also the faster route from Ambato to Baños, Canelos, and the River Pastaza.[44] At the end of the eighteenth century an attempt was made to penetrate the Oriente from Cuenca.[45]

Many efforts came to little in the Spanish settlement of the Oriente.[46] Quijos was an area of cotton-growing until an uprising of the Indians in 1579 destroyed the settlements. Thereafter, the Spaniards exercised only feeble control over the province. San Francisco de Borja, in Yaguarzongo, was founded in 1619 by Diego Vaca de Vega.

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[43] Ibid., VI, 142.

[44] Ibid., pp. 142-43.

[45] Pío Jaramillo Alvarado, Tierras de Oriente: caminos, ferrocarriles, administración, riqueza aurífera (Quito: Imprenta y Encuadernación Nacionales, 1936), p. viii.

[46] Phelan provides an account of Spanish penetration of the Oriente in Chapter II, "The Thrust to the Amazon: Success and Failure," in Kingdom of Quito, pp. 23-42.

The isolated colony was a centre for encomenderos in the province, but after the Indians rose in revolt in 1635 it ceased to flourish. Jesuit missionaries gathered a large number of Indians into villages along the Marañón in the seventeenth century. However, epidemics, revolts, and encroachment by the Portuguese destroyed the missions and Spanish power in this area after 1680.

Although neither vested interests nor official opposition prevented the development of routes, the Spanish had little success in the Oriente. Gold was in short supply, and cotton could be grown along the coast. Settlement was sparse and wide-flung. The Portuguese controlled the route to the Atlantic. In all, the incentives were simply not sufficient to stimulate the growth and improvement of penetration routes.

Over three hundred years of colonial rule little progress was made in transportation. The introduction of the horse and mule was beneficial to trade and travel, but the knowledge of the wheel could be little applied in such rugged terrain. It was during the colonial period, however, that the emphasis on route direction was changing from the south to north trend of the Inca highway, to a westerly course from Quito to Pacific ports.

PART II

THE CHALLENGE TO TRANSPORTATION DEVELOPMENT

CHAPTER III

GEOGRAPHICAL

One of the smaller countries in South America, Ecuador occupies an area of pronounced geographic diversity. Bounded on the north by Colombia, on the north-east, east and south by Peru, and on the west by the Pacific Ocean, it is situated between one degree north and five degrees south latitude. The equatorial line lies a little to the north of Quito.

The three continental regions of the country[1]--the Coast, the Sierra, and the Oriente--are clearly delimited by the towering Cordillera de los Andes, which runs the entire length of the country from north to south. Topography, climate and natural vegetation are largely determined by their relationship to the Andean range.[2]

Topography

The western region, lying alongside the Pacific, is largely a fertile alluvial plain that varies in width from

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[1]The Archipiélago de Colón (Galápagos Islands) is not discussed in this study.

[2]The main sources consulted for the geographical information used in this chapter are: Preston E. James, Latin America (3rd ed.; New York: The Odyssey Press, 1959), pp. 142-159; American University, Area Handbook for Ecuador, pp. 11-22; Francisco Terán, Geografía del Ecuador, (7th ed.; Quito: Editorial Colón, 1966); Juan Morales y Eloy, Ecuador: nociones históricas, geografía física y antrópica (Guayaquil: Propiedad Artístico-Literaria, 1938).

18 to 125 miles, and comprises about a quarter of the total area of the country. Most of the region is lowland, seldom rising to over 2,000 feet above sea level.

Although many short rivers break the coastline, only three river systems are of importance in transportation. Near the Colombian border is the Santiago river system, with a complex of channels and islands amid mangrove swamps. Further south lies the Esmeraldas system, with the port city of the same name at its mouth. The most southern, largest, and unquestionably most important in navigation is the Guayas. In fact, the Guayas basin is the largest river basin along the Pacific coast of South America. The port of Guayaquil lies some 30 miles upstream just before the river divides into its major tributaries--the Babahoyo, the Daule, and the Vinces. Several bays provide natural harbours. Of importance are Bahía de Caráquez and Manta in Manabí, La Libertad and Salinas on the Santa Elena Peninsula, and Puerto Bolívar in El Oro.

The Coast, unlike the Sierra, has natural transportation routes in its rivers and beaches, which can be used by automobile traffic at low tide. Although the rivers and swamps create problems for roads and rails, not so much topography as climate has an effect on land transportation along the Coast.

The Andes extend, in two parallel cordilleras of volcanic origin, nearly 400 miles north and south. Traces of a third cordillera exist toward the Oriente. The mountains are high and rugged, with snowcapped volcanoes rising to

20,000 feet. Chimborazo, at 20,577 feet, was once thought to be the highest mountain in the world.

Between the Cordillera Oriental and the Cordillera Occidental, and divided by nudos (transverse ranges), lie some eleven hoyas (intermont basins): (from north to south) Tulcán, Ibarra, Quito, Ambato, Riobamba, Alausí, Cañar, Cuenca, Jubones, Loja, and Macará. To the west of the Cordillera Occidental are three more basins--Toachi, Guaranda, and Zaruma. The hoyas descend in height from Tulcán at 9,800 feet in the north to Loja at 7,300 feet in the south. The volcanic soil is for the most part rich, but in the hoyas of Ambato and Riobamba it is porous. Below the nudo of Azuay, rivers have washed away much of the volcanic soil from the basins.

Several basins are rent by deep gorges such as the River Chota has cut as it flows north of Ibarra on its way to the River Mira and the Pacific Ocean. The River Guayllabamba, also on a westerly course, severs the northern section of the hoya of Quito. Between Ambato and Riobamba the River Pastaza drains through a narrow valley to the Upper Amazon Basin. South of Cuenca, the large Jubones (or Yunguillas) River Valley bears to the west and reaches the Pacific. In their upper reaches, these rivers flow too swiftly over rapids and within steep-sided canyons to be of use for transportation in the Sierra.

The Oriente, comprising over half of the area of the country, is part of the Upper Amazon Basin. The Cordillera Oriental falls steeply but steadily to the east and the

Oriente stretches from a height of around 5,000 feet to an expanse that averages less than 1,000 feet above sea level. The main rivers are the Pastaza, the Santiago, the Curaray, the Napo, the Aguarico, and the Zamora. All are navigable in their lower courses. Access to the lowlands is difficult, however, on account of the steepness of the gradient of the rivers in their upper reaches where they cannot be navigated even by canoe, and land travel is an arduous task.[3]

The topography of the Sierra has provided a serious challenge to transportation development. The steepness and ruggedness of the region start the problems for roads and rails. River valleys that cut through the mountains are mostly precipitous and only by clinging near to the peaks of the mountains, as the Incas tried to do, can they be circumvented. Frequent earth movements and rainfall on loose soils have left a splintered landscape with quebradas (ravines) at every turn. Often the route has to be cut from the mountain face like a rung, and the cliff falls sheer below. Loose earth and rocks frequently cause landslides. The Ferrocarril del Sur has suffered several disastrous landslides where the route passes through the Chanchán Valley. In many places the rock is not hard enough to provide a firm surface for rails or roads. Referring to any future railroads which would have to climb the west

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[3]Edmund Eduard Hegen, Highways into the Upper Amazon Basin: Pioneer Lands in Southern Colombia, Ecuador, and Northern Peru (Gainesville: University of Florida Press, 1966), p. 49.

face of the Andes in Ecuador, Theodore Wolf said:

> La mayor dificultad no consiste en la configuración topográfica superficial, sino en la naturaleza interior de las rocas, y en las condiciones climatológicas.[4]

Active volcanoes and earthquakes also can cause much damage to transportation routes. In 1878, a decree was issued for the repair of bridges in the province of Tungurahua that had been destroyed by an eruption of Cotopaxi.[5] The same province suffered the devastation of its transport facilities during an earthquake in 1949.[6]

Advancements in construction technology and developments in transportation forms have drastically altered the effects of terrain on transportation. Mechanical tools can do in a few hours a task that once many men toiled over for many weeks. And the Andean barrier is not the same challenge to an automobile as it was to a mule train or a locomotive.

Climate

Ecuador enjoys great variety of climate, from tropical to subtropical, from temperate to glacial. The influence of the equator, the Cordillera de los Andes, and sea

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[4]Wolf, Geografía, p. 219.

[5]Laws and decrees that are referred to in this study can be found in the annual editions until 1900 of Colección de leyes y decretos expedidos por la convención nacional (Quito). After 1900 they are found in Registro Oficial (Quito). Unless quoted, they will not be cited.

[6]Walter Adamson, "Ecuador in Transition: An analysis of Persistent Problems and Current Progress" (unpublished Ph.D. dissertation, Fletcher School of Diplomacy, 1955), p. 176.

currents can make weather conditions very local.

Ocean currents influence rainfall along the coast. The northern part receives heavy precipitation, up to 150 inches; in the south rainfall is light, with an average of 22 inches in Guayaquil, and only 12 inches in Ancón. The rainy season in Guayaquil comes between January and May. The temperatures do not show annual as much as diurnal variation. At sea level the average annual temperature is about 79° F. Humidity is high.

As the temperature decreases with altitude, in Quito, at a height of 9,250 feet, the annual average is 55° F. In the highland basins warm easterly winds bring a rainy season from October to May, with a veranillo, a short dry spell, around Christmas. Rainfall (15-50 inches a year) and annual temperatures (52°-61° F.) are moderate in the Sierra, causing the occasional reference to the climate as an eternal spring. Some travellers who sojourned during the rainy months thought it a very damp and dismal spring.

The Upper Amazon Basin has even, but not excessive, temperatures combined with high relative humidity, and high rainfall throughout the year.[7] A tropical area, there is little variation in the average diurnal and less in the average annual temperatures. Heavy precipitation occurs almost every afternoon, with ligh rainfall at night, bringing an annual average of 120 inches.

During the dry season climate presents no problem for

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[7]Hegen, Highways, p. 76.

travel, but when the rains fall roads are "no malos sino pésimos y muchas veces intransitables, a consecuencia de las inundaciones."[8] In winter even neighboring villages are cut off from each other for weeks. In 1930 there were 3,578 kilometres of summer roads (caminos de verano), as against only 2,240 kilometres of all-year-round roads (transitables todo el año). Although by 1955 roads had increased to a total of 11,963 kilometres, still almost half of those were for transit only during the summer months.[9] The problem of roads becoming impassable during the rainy season has always been far more acute on the Coast than in the Sierra. Flat areas are flooded and extensive swamps formed.

Around the merging point of Coast and Sierra precipitation tends to be heavy and all year round, causing problems for dirt roads that can never dry out. At the level of the cloud forest limited visibility can make travel on mountainous roads a dangerous experience.

In the highland area, the rains bring regular landslides and even wash away entire sections of roadway. All work on roads and railroads is frequently halted during the winter months. Road repairs of the summer season can be destroyed by the first torrential downpour.

Almost all traffic between the Coast and the Sierra

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[8]Wolf, Geografía, p. 211.

[9]Junta Nacional de Planificación y Coordinación Económica, Evaluación del programa de transportes, p. 2.

in the nineteenth century was set to a standstill while the rains fell. In the twentieth century, traffic by the railroad, which had become the lifeline of the Sierra, was frequently interrupted during the winter months. In 1953 torrential rains suspended all rail and road traffic between Quito and Guayaquil for two months.[10] Even in 1970 the major route from Quito to Guayaquil, an asphalt-paved road, was blocked for several days by washouts and landslides.

Climate can prove detrimental not only to roads but also to those who travel them. The climate of the coast, before the sanitation of the port of Guayaquil, was considered fatal in the rainy season by foreigners and serranos alike. The swarms of mosquitoes and other insects added to the misery of the traveller and spread disease. Sanitary habits were not customary, and fevers and dysentery were common. Ida Pfeiffer wrote, "Everything was indeed disgustingly dirty; but one must not be hard to please in this country."[11] In 1878 the government became so concerned about the ill-health of travellers passing through Babahoyo that it allocated money for a hospital in the town.

The Indian labourer from the cool altiplano could not survive in the oppressively humid, fever-ridden lowlands, and Negroes from the Caribbean had to be imported for work

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[10]Adamson, "Ecuador in Transition," p. 170.

[11]Ida Pfeiffer, A Lady's Second Voyage round the World (New York: Harper & Brothers, 1856), p. 342.

on the Ferrocarril del Sur.[12] Work on the railroad from San Lorenzo was delayed by a shortage of labour in the tropical area, and labourers were reluctant to work on the Sibambe-Cuenca line through fear of the climate.[13]

Vegetation

Where rainfall is regular along the coast, mainly in Esmeraldas province and along the foot of the Andes, vegetation is of the rain forest type. Semideciduous forests are found in Manabí, and tropical woodlands in Guayas and El Oro, except for the westerly and southern parts where there is only desert scrub. A great variety of vegetation grows on fertile watered soils. The tropical crops cultivated include: bananas, cacao, coffee, sugar cane, cotton, and rice; among forest products are toquilla palm for Panama hats, tagua nuts for vegetable ivory, palm nuts for oil, kapok from the ceibo tree, tannin from the mangrove swamps, and a great variety of woods and bamboos.

In the Sierra vegetation changes considerably according to altitude. Below the snow line are the *páramos*, covered in *pajonal* grass, with pasture for goats, sheep, and llamas, and cultivation of little besides the hardy native potato, and pyrethrum, an insecticidal plant of recent introduction. The altiplano, where natural

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[12] Roberto Crespo Ordóñez, *Historia del Ferrocarril del Sur* (Quito: Imprenta Nacional, 1933), p. 88.

[13] *Informe acerca del estado de los trabajos de construcción del Ferrocarril de Huigra a Cuenca durante la primera quincena de febrero de 1917* (Cuenca: Imp. por Manuel J. Veintimilla, 1917), pp. 18-19.

vegetation has largely been eliminated by centuries of agriculture, is a zone for European and native grains, vegetables, fruits, and cattle grazing. The blue eucalyptus, introduced during the presidency of García Moreno, dots the hillsides. The subtropical valleys, between 3,000 and 6,000 feet, have more natural vegetation and crops of both the Coast and the Sierra.

Mountain rain forest lies to the east of the Sierra, and rain forest in the Upper Amazon Basin. Some tropical crops are grown here and forest products, such as cinchona bark, sarsaparilla, and rubber, are collected.

Vegetation has proved an obstacle to transportation wherever heavy rainfall and high temperatures produce luxuriant gropical growth. As the Minister of the Interior in 1849 explained:

> Hoi se abre un camino con grandes costos i a los tres meses está intransitable, porque la exuberancia de la vejetacion obstruye el paso.[14]

As was seen in the colonial era, the roads that were built with great effort to Esmeraldas were soon lost to the forest. Many trails in the Oriente suffered a similar fate.

Demography

At the time of the Spanish conquest the indigenous population of the kingdom was probably around 1,000,000.[15] The Spaniards settled in the highland areas of high-

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[14]Ecuador, Exposición del Ministro del Interior, (Quito, 1849), p. 22.

[15]Phelan, Kingdom of Quito, pp. 45-46.

population density where they could enjoy a supply of free labour and a temperate climate. Unlike many areas of the New World, it appears that the population in the Kingdom of Quito did not suffer a sudden serious decline,[16] although Negroes largely replaced the Indians along the tropical lowlands.

The first census after independence, in 1826, gave Ecuador a population of 550,700; the department of Guayaquil (Guayaquil and Manabí) had less than one seventh of the combined population of the departments of the Sierra (Ecuador and Azuay).[17] Soon after mid-nineteenth century the population had probably reached over 1,000,000, with twice as many living in the Sierra as the Coast.[18] By 1927 the population was around 2,000,000,[19] and by 1950 it stood at 3,202,757, of which the coastal population, concentrated in Guayas and Manabí, represented over 40 per cent.[20] Paz y Miño points out that the increase in population between 1824 and 1935 was 1,693.61 per cent for the Coast, and only

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[16]Ibid., p. 46.

[17]Villavicencio, Geografía, p. 163.

[18]Ibid., p. 164. It should be mentioned that statistics are only estimates, and that some provinces are located so that they have characteristics of both Coast and Sierra.

[19]Luis T. Paz y Miño, La población del Ecuador (Quito: Talleres Gráficos de Educación, 1942), p. 19.

[20]Lilo Linke, Ecuador: Country of Contrasts (3rd ed.; London: Oxford University Press, 1960), pp. 6, 14.

397.18 per cent for the Sierra.[21] In the next census it may well be learned that the population of the coastal provinces has outgrown that of the highlands.

The population of the city of Guayaquil increased at a similarly rapid rate. From 30,000 inhabitants in 1780, it grew to 91,842 in 1919. By the early twentieth century it has become larger than the capital, with a population in 1950 of 266,000, as compared to 212,000 in Quito.[22]

The population density was always higher in the Sierra than the Coast, where Guayas province had the highest concentration of people.[23] In the mountainous Sierra the ratio of people to productive land was extremely high.[24] The Oriente was almost insignificant in population as the entire region accounted for only 1.5 per cent of the national total in 1950.[25]

It has been estimated that in 1950, 45 per cent of the population of the Coast was made up of Negroes and mulattos, and in the Sierra 70 per cent of the population was Indian or mestizo.[26] The rural _serrano_ is often characterized as

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[21]Luis T. Paz y Miño, _La distribución geográfica de la población del Ecuador_ (Quito: Imp. de la Universidad Central, 1938), p. 18.

[22]Linke, _Ecuador_, p. 6.

[23]Paz y Miño, _Distribución geográfica de la población_, pp. 15-18.

[24]Linke, Ecuador, p. 13.

[25]Felipe Fernández Alonso, "Las comunicaciones en un país andino," _Estudios Geográficos_, XVII, No. 62 (1956), 417.

[26]_Ibid._, p. 419.

being more conservative and taciturn, and less mobile than his costeño counterpart.

The saying goes that either roads follow people or people follow roads. The rapid growth of the coastal population, due in part to migration, began before the improvement in transportation. Yet when routes were developed it was to improve the communications between areas of population concentration. It must be remembered, however, that there were so few railroads or good roads in Ecuador that some areas with many inhabitants long remained in relative isolation without access to major routes. Not until 1964 did the railroad from Sibambe arrive in Cuenca, the city with the third highest population in the country and Loja could only be reached by rough trails in the 1940s. Lack of transportation routes early taught some highly populated areas of Ecuador to rely on an autarkic economy.

If roads to populated areas were long in arriving, the problem was far greater for project routes to outlying areas with small numbers of people. The principal aim of such routes was to provide an outlet from the Sierra to international trade routes. The problems of road maintenance and the economy of a line through uninhabited regions went largely unconsidered. Theodore Wolf suggested such plans were, in fact, chimerical:

> Es un gran error creer, que basta que el Gobierno declare un punto en la costa comp puerto mayor y haga un camino á él, para atraer de un golpe el comercio exterior é interior á este punto, y una

> inmigracion numerosa á un pais hasta ahora desierto.[27]

The projected routes to Esmeraldas were hampered by political problems, but also by the paucity of people. With even fewer colonists, the Oriente had greater problems.

It has been essential, nevertheless, for Ecuador to penetrate into new areas to foment agricultural production, to reduce the tensions of defective land tenure patterns in the Sierra, and to ensure national sovereignty over the territory that remains to her in the Oriente. Successful colonization in such areas requires not only transportation routes; rewards must be enough to attract people from regions where land pressures are sufficient to dislocate them, and infrastructure, such as schools and hospitals, must be built in the area of colonization to keep them.

The problem for transportation in relation to demography has been to provide access to ports for the Sierra, and to link regions of high population density and diverse physical resources. At the same time, routes have been needed to penetrate isolated areas and encourage colonization.

Geography has provided Ecuador with a diversity of physical resources. Ecuadorians are fond of saying that their country is a rich one, referring to the wide variety of terrain, climate, and products. On the other hand, geography has also set up a formidable challenge to the full

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[27]Wolf, Geografía, p. 220.

exploitation of these resources in the barriers to transportation.

CHAPTER IV

POLITICAL

Vicente Rocafuerte, second president (1835-39) of the republic, bequeathed to his native land:

> Tres mil pesos para que se destine a la compostura y refacción del camino que vá de la Villa de Ibarra para el Paylon en la Republica del Ecuador; otros tres mil pesos para el camino de Quito a Ibarra; y otros tres mil para el que conduce de Cuenca a Guayaquil.[1]

His bequest was in vain. Not until some fifteen years after his death in 1847 was any concerted effort made to improve transportation routes in Ecuador.

During the period after independence from Spain when Ecuador constituted three departments within the Republic of Gran Colombia (1822-30), decrees were issued to encourage the opening of new roads and the maintenance of old.[2] The Liberator, Simón Bolívar, responded to the requests of regional groups for roads by issuing orders for work on routes,[3] but these were tumultuous times and nearly all national income was destined for military expenses.

Juan José Flores, a Venezuelan veteran of the war of

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[1]Vicente Rocafuerte, Testamento de Vicente Rocafuerte (Quito: Talleres Gráficos Nacionales, 1947), p. 3.

[2]Colombia, Codificación nacional (Bogotá, 1924), pp. 91, 98, 245, 329.

[3]Junta Autónoma del Ferrocarril Quito-San Lorenzo, Informe al H. Congreso Nacional, 1952 (Quito: Editorial La Unión Católica, 1952), pp. 316-17.

independence, became the first president of the Republic of Ecuador in 1830 and dominated politics intermittently for almost fifteen years. Flores was too busy with the suppression of internal disorders to pursue constructive policies,[4] but Vicente Rocafuerte, president from 1835 until 1839, saw the need for public works. He started construction of roads towards the Oriente, and planned to restore the Malbucho route to Esmeraldas. As we have seen from his will, he was unable to carry through these projects, although he did not cease to advocate them.

Until 1861 Ecuador was engulfed in endless power struggles that reduced national finances to chaos and diverted all attention from public works that were so desperately required to foster economic progress and unity in the nation. The Minister of Finance in 1871 observed that ministerial reports until 1858 had consisted solely of excuses for not having accomplished anything for lack of funds.[5] The Sierra remained isolated, industry and agriculture vegetated, and commerce was scant.

In 1861, William Jameson reported to the Royal Geographical Society:

> I regret to say that for the last thirty years, there has been no social or financial improvement in the condition of the country. In proof of this assertion

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[4]Carlos Rolando lists the public works initiated and inaugurated in each administration until 1930 in Obras públicas ecuatorianas (Guayaquil: Talleres Tipográficos de la Sociedad Filantrópica del Guayas, 1930).

> I aver that no road to the coast has yet been opened.[6]

His sentiments were bitterly echoed in the same year by Julio Castro, private secretary to García Moreno, who accompanied the president on a tour of the country at the outset of his term of office:

> Cuarenta años llevamos ya de existencia política y no obstante caminamos aún por veredas apenas transitables y expuestos a rodar a cada paso.[7]

Just over a decade later, however, the president and the Archbishop were to travel by stagecoach along the Carretera Nacional,[8] roads were being built to connect the coast with Loja, Cuenca, and Ibarra, and local municipalities vied with each other over road construction.[9] The author of this sudden change in the fortunes of Ecuador was the austere, resolute president Gabriel García Morena (1861-65; 1869-75). At the end of his first administration, the Minister of the Interior could boast:

> En cuatro anos de lucha continua, ya con enemigos exteriores, ya con los sediciosos y traidores del interior, se han trabajado obras públicas que ántes no se habían reputados posibles aun en el seno de

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[6]William Jameson, "Journey from Quito to Cayambe," The Journal of the Royal Geographical Society, XXXI (1861), 186.

[7]Julio Castro, "Páginas de una cartera de viaje. Un viaje con García Moreno en 1861," Boletín de la Academia Nacional de Historia (Quito), XXXIII, No. 82 (1953), 213.

[8]José Joaquín Flor Vascónez, Historia analítica del Ecuador (Quito: n.p., 1970), p. 73.

[9]J.L.R. [José Le Gouhir y Rodas], Historia de la República del Ecuador (3 vols.; Quito: Imprenta del Clero, 1938), II, 87.

la Paz.[10]

The beginning of the national highway alone was sufficient to prove his words.

The first, and perhaps the only national transportation plan was instigated by García Moreno and carried out under his vigilance until his assassination in 1875.[11] Road construction was started to link the major cities of the Sierra with the Pacific. A truly coordinated system was envisaged to join Quito with Guayaquil. The 150-mile Carretera Nacional from Quito to Sibambe was planned to connect with a railroad, from Yaguachi to Sibambe. With the dredging of the River Yaguachi, this would provide an all-year-round route between the capital and the major port.[12]

A prospering economy and, it has been said, a desire to emulate García Moreno, prompted the dictator General Ignacio de Veintimilla (1876-83) to concern himself with some roadbuilding.[13] Under Veintimilla the railroad from Yaguachi was continued to Chimbo, in the foothills of the Andes.

The era of progresismo (1883-95) was a period of compromise between the extreme conservatism exemplified by García Moreno and the radical liberalism growing in strength

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[10]Ecuador, Exposición del Ministro de lo Interior (Quito, 1865), p. 25.

[11]J. Augusto Murgueytio D., "Memorandum: cuestiones viales del Ecuador," Quito, 1970, p. 2. (Typescript).

[12]Ibid.

[13]J.L.R., Historia del Ecuador, III, 123.

along the Coast.[14] Luis Cordero, the first of three constitutionally elected presidents in this period, attempted to promote public works but was hindered by revolutionary outbursts. As the Minister of the Interior in 1886 described the situation:

> Este importante ramo de la Administracion pública, que no puede prosperar sino á la sombra de la paz firmemente establecida, ha debido padecer el natural [mal] proveniente del destructor influjo de las revueltas.[15]

Poor communications in turn obstructed the development of national unity and a strong central government which would be able to maintain civil order. In 1887 the newspaper La Voz de la Sierra pleaded "un camino más y habremos echado fuera tantas revoluciones incalificables."[16]

During the administration of Antonio Flores (1888-92), son of the first president of the republic, some progress was made in public works. Flores, a diplomat and student of public finances, attempted to restore the country's credit abroad so as to attract entrepreneurs for the projected railroads.[17] After the failure of several contracts, Flores began to lose faith in the rapid conclusion of railroads in Ecuador. In the belief that "con menos fiebre de ferrocarriles hubiéramos tenido tiempo há buenos caminos de

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[14]Gabriel Cevallos García, Historia del Ecuador (2nd ed.; Cuenca: Editorial "Don Bosco," 1967), p. 373.

[15]Ecuador, Informe del Ministro del Interior (Quito, 1886), p. 25.

[16]La Voz de la Sierra (Bahía), May 14, 1887, p. 1.

[17]Cevallos García, Historia del Ecuador, p. 387.

herradura,"[18] Flores turned his attention to roadbuilding. The road from Guayaquil to the Sierra was improved and inaugurated as the Vía Flores.

In 1895 the Liberal party came to power in Ecuador with Eloy Alfaro at the head of the nation from 1895 to 1901, and again from 1906 to 1911. Another outstanding Liberal, Leonidas Plaza Gutiérrez, was twice elected president, in 1901 and 1912. It has been said that it was during this period that the "dynamic function of transportation" became apparent in Ecuador, when transportation facilities came to stimulate economic growth and national unity.[19]

Railroad projects were promoted by the Liberals to the extent that one writer commented that rails had become "la cotidiana obsesión--perdóneseme el pleonasmo--del partido liberal."[20] In 1903 the railway from Puerto Bolívar was in service to Pasaje, and by 1908 the Ferrocarril del Sur reached Quito. Within the next decade work was started on the railroads in Manabí, the Ferrocarril del Norte, the Ferrocarril a La Costa, the lines from Sibambe to Cuenca, from Ambato to the Oriente, and from Babahoyo through Balsapamba to the Sierra. Railroads were planned to cover

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[18] M.L., Los ferrocarriles (Quito: Imprenta de Sanz, 1892), p. 2.

[19] Fausto M. Guerrero A., "Estrategia y metodología para la preparación de proyectos de transporte en el Ecuador," (unpublished dissertation, Universidad Central de Quito, 1967), p. 153.

[20] Alejandro Andrade Coello, La ley del progreso: el Ecuador en los últimos quince años (Quito: Editorial de J.I. Gálvez, 1909), p. 50.

the national territory (see Plate III, p. 50).

So many simultaneous railroad projects, which were undoubtedly in part a result of "simples y apresurados alicientes políticos,"[21] were bound to failure. World War I terminated the interest of European contractors, imported equipment was scarce, and the financial situation of the country became acute as cacao exports began to drop.

In addition to these economic problems, the government also had to contend with civil disorders. The lament of the Minister of the Interior in 1914 was like an echo from the past century:

> ¿Cómo pueden realizarse aquellas importantes obras si la atmósfera de la Patria está impregnada del humo del combate y de los vapores de la sangre fratricida?[22]

In the same year the British Consul remarked that the government was unable to suppress disturbances largely because of the lack of roads and railways.[23]

The railroads were in themselves a source of contention. Eloy Alfaro had to fight many a political battle to ensure that the Guayaquil-Quito line reached the capital.[24] In 1906 the routing of the line helped to spark a revolution.

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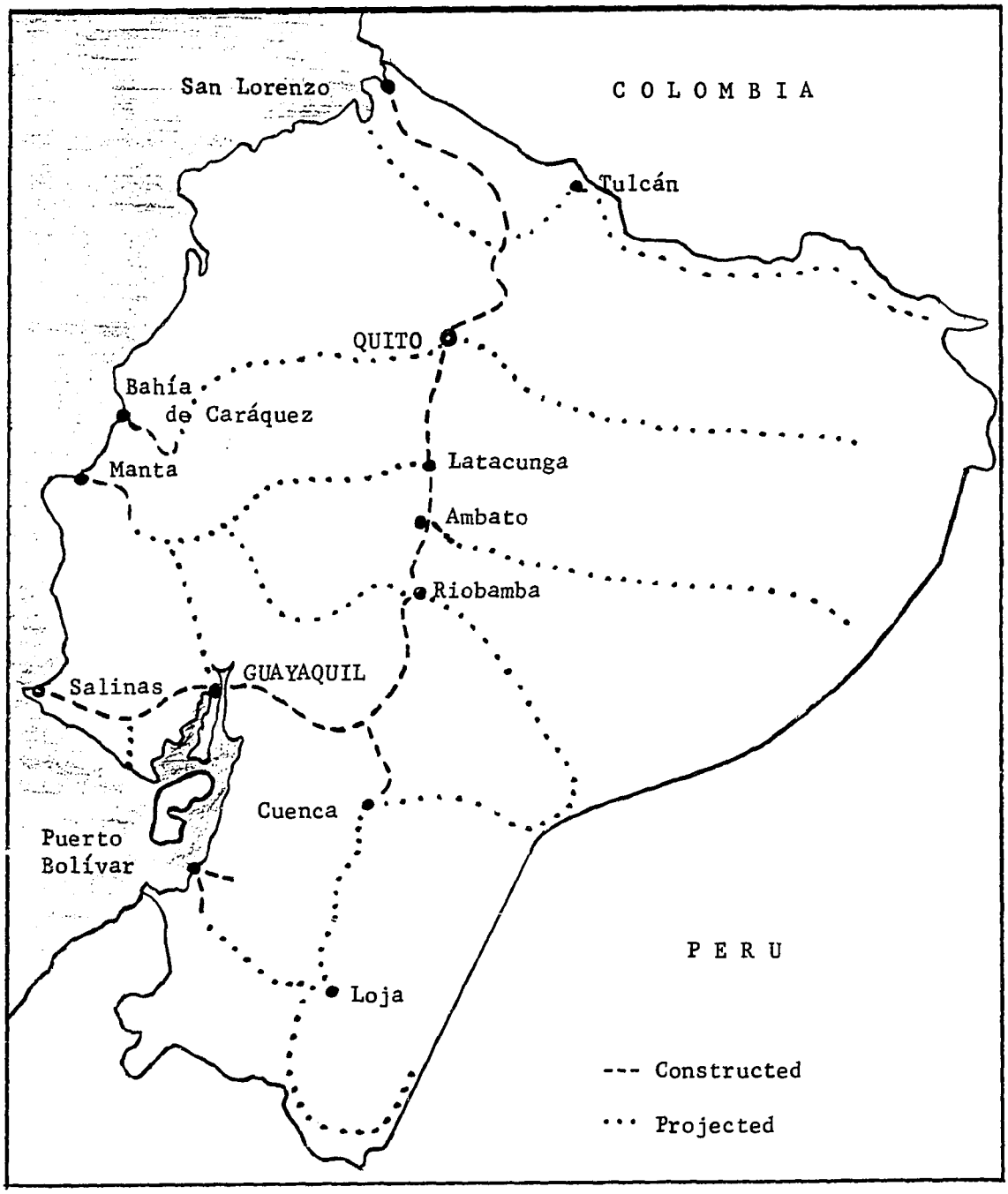
[21] Oscar Efrén Reyes, Breve historia general del Ecuador (7th ed.; 3 vols.; Quito: Editorial "Fray Jodoco Ricke," 1967), II and III, 248.

[22] Ecuador, Exposición del Ministro de lo Interior (Quito, 1914), unnumbered page.

[23] Council of the Corporation of Foreign Bondholders, Forty-first Annual Report (London: Council House, 1914), p. 22.

[24] Eloy Alfaro, El Ferrocarril Trasandino. Cartas del General Eloy Alfaro (Quito: Imp. de "El Tiempo," 1903), p. 10.

PLATE III
PROJECTED AND CONSTRUCTED RAILROADS



Sources: The Republic of Ecuador, I, No. 4 (1922), 18; Junta Autónoma del Ferrocarril Quito-San Lorenzo, Red troncal ferroviaria nacional, Quito, 1950.

The Guayaquil and Quito Railway Company had disregarded the contract stipulations, and had decided to adopt the easiest route, so avoiding Riobamba. Thereupon the riobambeños readily joined the revolt against the government of Lizardo García that had permitted this move by the company, and placed Eloy Alfaro once again in power.[25]

Regionalism, "una vieja enfermedad ecuatoriana,"[26] hindered progress on other railroads. A road from Quito to Esmeraldas had been opposed in colonial times by the merchants of Guayaquil, and in the twentieth century similar allegations were made to explain the slow progress of the Ferrocarril del Norte.[27] When a railroad was being planned, influential landowners and towns tried to ensure that the tracks would be located to their advantage. On account of the insistence of the inhabitants of Pelileo, the line from Ambato had to be relocated.[28] The junction for the line to Cuenca with the Ferrocarril del Sur was hotly disputed by Sibambe and Huigra, and the routing of the railroad from

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[25]Un Riobambeño, Riobamba y el ferrocarril (Quito: Tip. de la Escuela de Artes y Oficios, 1905); Un Riobambeño, Para la historia. El ferrocarril de Riobamba y la revolución del 1º de enero de 1906 (Riobamba: Imprenta Municipal, 1906).

[26]Alberto Wright, "Apreciaciones del ramo de obras públicas," Boletín Mensual de Obras Públicas, VI, No. 59 (1943), 4.

[27]J. Delebecque, A travers l'Amérique du Sud (2nd ed.; Paris: Plon-Nourrit et Cie., 1907), p. 30; Ricardo Del Hierro, Apuntes para una monografía del Carchi (Quito: Tipografía y Encuadernación Salesianas, 1924), p. 40.

[28]Pío Jaramillo Alvarado, Ferrocarriles al Oriente (Quito: Imp. y Encuadernación de la "Editorial-Quito," 1922), pp. 53-56.

Puerto Bolívar caused bitter controversy between Loja and Cuenca.[29] "Menos espíritu localista o vecinal y más sentimiento de nacionalidad" was obviously called for.[30]

Just as the Guayaquil-Quito railroad had had to await an indomitable proponent in Eloy Alfaro, so automobile roads received no great impetus until the military revolution of July, 1925 eventually brought Isidro Ayora to power (1926-31). Under Ayora public works were concentrated under a single directive body, and investment in transportation between 1927 and 1931 totalled 23 per cent of the national income.[31] Public enthusiasm ran high and thousands worked voluntarily on roads and rail-beds. Although still unpaved or paved with cobblestones, by 1930 roads were adapted to permit travel by car from Tulcán on the northern frontier all the way to Babahoyo.[32] Railroads also received attention: the line from Quito to Ibarra was inaugurated in 1929 amidst great jubilation, and similarly the line from Sibambe to El Tambo in 1930.

Work continued gradually on both railroads and roads until the administrations of José María Velasco Ibarra (1934-35; 1944-47; 1952-56). Of Velasco Ibarra it has been

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[29]Pío Jaramillo Alvarado, Historia de Loja y su provincia (Quito: Casa de la Cultura Ecuatoriana, 1955), pp. 422-24.

[30]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1939-40), p. 14.

[31]Murgueytio, "Memorandum," p. 5.

[32]Ecuador, Oficina de Información y Propaganda, La carretera Rumichaca-Babahoyo (Quito, 1930).

said "es quien más se ha preocupado del asunto vial del país, construyendo, mejorando, manteniendo todas las carreteras del país."[33] Budget allocations for public works increased and roads were built to open up many regions that had for long remained isolated.[34]

Political instability continued to characterize the Ecuadorean scene. Galo Plaza Lasso, elected president in 1948, was the first popularly elected executive in a quarter of a century to finish his term of office.

A history so haunted with political upheavals and personal or local interests posed a challenge to any kind of progress in public works. Indeed, only during the administrations of visionary, authoritarian leaders, such as García Moreno, Eloy Alfaro, and Isidro Ayora, were all obstacles overcome and great feats of engineering accomplished.

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[33]Murgueytio, "Memorandum," p. 5.

[34]Pedro Carbo Medina, Exposición sobre las obras públicas nacionales (Quito, 1956), pp. 8-11.

CHAPTER V

ECONOMIC

One of the reasons frequently advanced for the slow development of transportation facilities in Ecuador has been the empty cupboard of the national treasury.[1] The uneven, frequently unhealthy economic history of the republic lends some validity to this contention. On the other hand, it has often been argued that the unsound economic situation of the country is due in main to the inadequacy of transportation.[2]

For agriculture and industry to develop beyond self- or local-sufficiency, the possibility of trading surplus goods at an economical rate had to exist. When only mule trains plied the dangerous trails exchange was limited to valuable, non-perishable goods. Improved roads and railroads were undeniably required; the problem was how to finance them. Since the greater part of the national income was derived from customs duties on agricultural exports, then either these exports had to grow, or alternatively credit had to be sought abroad or at home. Investment in transportation, in fact, came from both sources.

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[1]Ecuador, Informe que presenta el Secretario General del Gobierno Provisional (Quito, 1861), p. 11; Ecuador, Informe del Ministro de Hacienda (Quito, 1871), p. 39.

[2]Villavicencio, Geografía, p. 151; Ecuador, Aspectos básicos para el desarrollo económico, p. 7.

Public Finances and Public Works

George Earl Church, in a report to the United States Senate, related:

> Until 1861, every financial report of the government was a chapter of lamentations; that of 1851 closes its long list of miseries by stating that the financial condition could be expressed by three words: "Chaos, misery, and discredit."[3]

In the early years of the republic the reports of the Ministers of the Interior showed no specific assignment for public works.

When García Moreno became president some order and honesty was given to public finances, and money was found to invest in roads and the railroad. As much as 32 per cent of the budget of 1872 was allocated to public works.[4] During that decade the exports of cacao started on a sharp upward trend that was to make cacao, la pepa de oro, worth over 75 per cent of the value of exports by the outbreak of World War I.[5] Since most public income was derived from customs duties, the growth in exports began to fill the purse of the exchequer. The national budget went from less than one and a half million pesos in 1868 to eight million by the end of the century.[6]

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[3]U.S., Congress, Senate, Ecuador in 1881, by George Earl Church, S. Doc. 69, 47th Cong., 2nd sess., 1882-83, p. 24.

[4]Murgueytio, "Memorandum," p. 3.

[5]Luis Alberto Carbo, Historia monetaria y cambiara del Ecuador (Quito: Imprenta del Banco Central del Ecuador, 1953), p. 449.

[6]J. M. Sucre, "Hacienda pública," El Ecuador Comercial, II, Nos. 13-14 (1924), xxix-xxx.

Ecuador did not suffer the effects of World War I as much as some of the neighbouring republics,[7] but European contractors halted work on the railroads and necessary equipment was not available. Although income continued to rise, money was being spent at a faster rate than it was gathered.[8] Innumerable public works projects were initiated that could not be adequately financed and so would be left incomplete. Fiscal organization was still inept. Defective procedures for the collection of revenue added to a complicated system of expenditure defied all attempts at systematization.[9] The government did not base its budget on income and since taxes were not increased, it had to borrow to meet its annual expenditures.[10]

Foreign credit was not forthcoming. Ecuador's foreign debt originated in the country's share of the English loan to Gran Colombia during revolutionary days. When Alfaro found that his great dream of the Guayaquil-Quito railroad was threatened by his refusal in 1896 to service the debt, he agreed to consolidate it with a large new loan for the railroad.[11] Interest on the foreign debt was not paid

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[7]Council of the Corporation of Foreign Bondholders, Forty-second Annual Report (London: Council House, 1915),27.

[8]Council of the Corporation of Foreign Bondholders, Fiftieth Annual Report (London: Council House, 1923), p.143.

[9]Ibid., pp. 141-143.

[10]Ibid., p. 143.

[11]Rafael Antonio Terán V., "El Ecuador de hoy y sus problemas," Anales de la Universidad Central (Quito), Nos. 291-92 (1935), 400.

between 1912 and 1925;[12] consequently, Ecuador's credit abroad was bad. The report of the Council of the Corporation of Foreign Bondholders in 1916 sourly stated: "Ecuador affords a striking instance of the progress of a country being crippled on account of its want of credit."[13]

Under Leonidas Plaza Gutiérrez, the government turned to the national banks for credit. By law, banks were entitled to issue bank notes against a 50 per cent gold backing. The Banco Comercial y Agrícola, founded in 1894 in Guayaquil, soon exceeded this limit, but its influence over the government, to which it had loaned so much money, was so strong that no measures were taken to curb its illegal emissions.[14] Although the budget deficit between 1914 and 1924 was shown as only 6,000 sucres, the internal debt had grown by over 24,000,000 sucres.[15] Much of the money had been spend on railroad projects.[16]

During the same period the standard source of income for the national treasury was drying up. Cacao exports had reached a peak in 1916, but with the appearance of monilia

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[12]In 1960 the principal item on the list of foreign debts was still that of the Guayaquil-Quito Railway. Linke, Ecuador, p. 163.

[13]Council of the Corporation of Foreign Bondholders, Forty-third Annual Report (London: Council House, 1916), p. 27.

[14]Terán, "Ecuador de hoy," pp. 403-04.

[15]Ibid., p. 406.

[16]Council of the Corporation of Foreign Bondholders, Forty-ninth Annual Report (London: Council House, 1922), p. 28.

disease in 1917 and witchbroom in 1922 exports diminished rapidly; production dropped from 1,079,252 quintals in 1916 to only 663,159 quintals in 1924.[17] Ecuador was experiencing the harsh consequences of too great a reliance on a single crop that in turn depended on world market fluctuations.

Matters came to a head in 1925 when the army rebelled against the domination of the financiers of the Coast and, after a short unsuccessful attempt at government by Junta, placed Isidro Ayora at the head of the government. In an attempt to repair the financial situation, a group of North American economists, under Professor Louis Kemmerer of Princeton University, was invited to present a plan for the economic rehabilitation of the republic. Although some criticisms have been made of the mission's recommendations,[18] in 1926, "for the first time in a long series of years, the year closed with a balance of revenue over expenditure."[19] A favourable balance of trade was achieved, service on the foreign debt was resumed, and the internal debt was considerably reduced.[20] This improvement in national finances was reflected in the attention and adequate allocations given to public works.[21]

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[17]Carbo, Historia monetaria, p. 449.

[18]Terán, "Ecuador de hoy," pp. 415-419.

[19]El Ecuador Comercial, VII, No. 69 (1929), 51.

[20]Ibid.

[21]Boletín Mensual de Obras Públicas, No. 62 (1945-46), p. 89.

Unfortunately, at the end of the decade the world financial crisis struck Ecuador. Exports were reduced by 50 per cent and the sucre lost half its value.[22] The economic reforms had had no chance to become effective and it was not "a question of rehabilitation for the country [had] never been placed on an adequate footing agriculturally, industrially, or financially."[23] Once again the internal debt rose as expenditure leaped beyond revenue, and a pattern of constant expansion of the national budget was established.[24] The percentage of government expenditure on public works dropped drastically except when President Velasco Ibarra was in office. Between 1938 and 1944 it did not rise above 10 per cent of the national budget.[25]

After World War II Ecuador was able to take advantage of favourable world markets for her agricultural products, particularly bananas, coffee, and cacao. Foreign trade increased greatly in volume and value, but the balance of international payments after 1950 registered a deficit.[26] Nevertheless, Velasco Ibarra insisted that a healthy

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[22]José A. Baquero C., Causas de la depreciación monetaria en el Ecuador (Quito: Imprenta del Banco Central, 1940), pp. 45, 62.

[23]U.S., Department of Commerce, Bureau of Foreign and Domestic Commerce, Economic and Financial Conditions in Ecuador, by Charles H. Cunningham (Washington, D.C.: Government Printing Office, 1931), p. 9.

[24]Linke, Ecuador, pp. 171-72.

[25]Boletín Mensual de Obras Públicas, No. 62 (1945-46), p. 89.

[26]Carbo, Historia monetaria, p. 447.

currency was of little value to a sick nation and embarked on an ambitious programme of public works.[27] Foreign loans from international banks were forthcoming to finance development projects,[28] and the Junta de Planificación y Coordinación Económica was established in 1954 to coordinate economic policies. Public works were about to enter a period of rapid expansion.

Agriculture

Luciano Andrade Marín distinguished three economic cycles in the history of Ecuador.[29] For the first century after the Spanish conquest mining was the major economic activity; then industry took over with textile manufacturing in the Sierra. This was doomed with the arrival of the steamship and cheap European products in mid-eighteenth century, so Ecuador turned to agriculture, with the Coast developing the production of tropical crops for exportation.[30] During the republic agriculture has continued as the basis of economic activity, with up to 90 per cent of the people at one time in some way dependent on it for a living.[31]

The heavily populated highlands suffered before the

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[27]Linke, Ecuador, p. 35.

[28]Ibid., p. 164.

[29]Luciano Andrade Marín, El Ecuador minero. El Ecuador manufacturero. El Ecuador cacaotero (Quito: Imprenta Nacional, 1932), p. 49.

[30]Ibid.

[31]U.S., Economic and Financial Conditions in Ecuador, p. 3.

introduction of fertilisers, irrigation, and modern techniques. The land was worked in a primitive way whether on a minifundio or latifundio scale. Transportation problems long reduced most agriculture in the Sierra to the level of self-sufficiency. Juan Menten lamented in 1892, "Que gran parte de los habitantes reduzca su aspiración á lo mínimo y se contente con lo que el patrio suelo dé."[32] With the construction of the Ferrocarril del Sur and the improvement of roads, the cultivation of grains, potatoes, and vegetables increased for inter-provincial and inter-regional trade, and products such as potatoes, alfalfa and cattle for export to neighbouring countries.[33] However, highland agriculture never produced export crops in any quantity.[34]

Agriculture on the Coast required less capital and less work, and far more cultivable land was available. Of even greater significance, the river systems provided a ready route to ports for tropical crops grown in the fertile soils.[35] The products of the Coast became the major source of the country's foreign exchange.

The first and for long the major crop was cacao; even though diseases struck after World War I production recovered

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[32]Ecuador, Informe del Ministro de lo Interior (Quito, 1892), Part 2, p. 4.

[33]U.S., Economic and Financial Conditions in Ecuador, p. 3.

[34]Eduardo Larrea S., Economía política, Vol. 1: La producción (Quito: Escuela de Estudios Económico-Sociales, 1939), p. 53.

[35]Ibid.

and it continued as one of the leading exports. Rice and coffee were used to diversify exports after cacao production dropped so drastically,[36] but in the 1950s all three gave way to bananas, a crop which came to occupy the same position in the economy as cacao had once held.[37] Rubber, the tagua nut, and other forest products were gathered for export; cotton, sugar, and many fruits were mainly for home consumption.

Agricultural progress and transportation development are closely bound together. Transportation can stimulate production and consumption, stabilize prices, offset poor harvests, spread new agricultural practices, and increase the value of land. For long the lack of roads held back production in the Sierra and in fertile but remote areas. The Coast profited by its natural transportation routes and its agriculture came to supply many of the raw materials for industry, export crops for foreign exchange, and capital for the extension of transportation facilities.

Industry

According to Luciano Andrade Marín, the industrial era of the country ended before the birth of the republic.[38] Its revival was remarkably slow, and mostly confined to

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[36]Linke, Ecuador, p. 137.

[37]Ibid., p. 139.

[38]Andrade Marín, Ecuador minero, p. 49.

home industries. In 1892 industry was described as being in its infancy unable to compete with foreign goods in cost or quality;[39] and a United States government report of 1931 stated:

> A domestic manufacturing industry is practically nonexistent, the exception being a cement factory, two breweries, two shoe factories, and a small number of textile mills.[40]

Most industry was located in the Sierra until recently. As in colonial days, the most important industry was textiles, with many small establishments producing for a home market.[41] Another home industry, but producing for export, was the making of the misnomered Panama hats of toquilla palm. In 1930 Panama hats were the second highest item in value on the export lists, but demand dropped considerably after World War II. The hats were originally woven in Manabí, particularly in Montecristi and Jipijapa; in the middle of the last century the craft was introduced into Azuay and Cañar to provide a source of income for the impoverished peasants.[42] Industrial production came to include cement, beer, pharmaceutical products, flour, sugar, and various other foodstuffs.[43]

Transportation was a factor that impeded the develop-

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[39]Ecuador, Informe del Ministro de lo Interior, 1892, Part 2, p. 3.

[40]U.S., Economic and Financial Conditions in Ecuador, p. 12.

[41]Larrea, Producción, p. 54.

[42]Linke, Ecuador, p. 151.

[43]Ibid., pp. 153-56.

ment of industry by limiting the easily accessible market area, and by greatly increasing the cost of goods taken from the Sierra to the Coast. People near ports could acquire foreign manufactured goods at less expense than products from the highlands.[44]

Commerce

Commerce had been restricted during the final days of the colony by "la escasa producción agrícola y la mala calidad de las manufacturas,"[45] and so it continued for another century. On a local level, goods were carried by humans, mules, or donkeys to be traded at weekly markets. Transportation was primitive but a great deal of energy had to be devoted to it. Some goods were traded between regions but on the whole internal commerce in the nineteenth century was slow and of little importance.[46] While the routes from the Sierra were so difficult, Guayaquil was feeding on potatoes from Chile, butter from California, and vegetables from Peru.[47] Even in the coastal region, the port of Manta found it far easier to import goods from abroad than to

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[44]Ibid., pp. 146-47.

[45]José María Vargas, "Aspectos económico-sociales del período de la independencia ecuatoriana." Boletín de la Academia Nacional de Historia (Quito), LI, No. 3 (1968), 8.

[46]Pedro Fermín Ceballos, Resumen de la Historia del Ecuador (6 vols.; Guayaquil: Imprenta de la Nación, 1889), VI, 68.

[47]La Voz de la Sierra, May 14, 1887, p. 1.

trade with Guayaquil.[48]

Not until the twentieth century did improvements in major transportation routes encourage inter-regional trade. However, commerce at the local level, or in the many areas that remained without good roads, still relied on Indian bearers or mules to reach a market. Local roads were needed to supply the major routes or "la corriente del comercio asemejaría a la de un arroyuelo, que corre sobre un vasto lecho de estéril arenal."[49] Provincial roads were promoted but only slowly until mid-twentieth century.

As to trade for export, it has been seen that this was largely supplied by the coastal region. The Ferrocarril del Sur encouraged the Sierra to export some products but the merchants claimed that "the high cost of transportation makes it difficult for the products of the mountain region to participate in international trade."[50]

By far the largest part of foreign commerce, imports and exports, passed through Guayaquil. Villavicencio tells that in 1858 the only gateways for foreign trade, besides Guayaquil, were Manta, a sea port, and Tulcán on the land route to Colombia, and Macará to Peru.[51] By the end of the century customs were also established at Puerto Bolívar,

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[48]Juan Menten, Informe sobre los caminos de la República y en particular sobre el de Quito a Manabí (Ambato: Imprenta Nacional, 1878), p. 4.

[49]M.L., Los ferrocarriles, p. 9.

[50]U.S., Economic and Financial Conditions in Ecuador, p. 29.

[51]Villavicencio, Geografía, p. 160.

Bahía, and Esmeraldas, as well as a number of smaller ports of call, and Chacras in the interior. Manta was mainly devoted to the export of Panama hats and tagua nuts, Puerto Bolívar to gold and cacao, Bahía to cacao, and Esmeraldas to small quantities of tobacco, coffee, cacao, rubber, and cocoanut oil.[52] La Libertad came into being as a petroleum export centre in 1926.

An increasing amount of commerce found its way to the ports as the twentieth century progressed. The value of goods exported multiplied over six times between 1935 and 1952.[53] Imported goods for distribution within the country rose at an even faster rate.[54] Over the same period of time, the number of kilometres of all roads rose from 3,348 to 6,130.[55]

While the economy of the republic was so undeveloped little headway could be made in public works. On the other hand, the inadequacy of transportation facilities was an impediment to a more rapid rate of economic growth. As regards resources, Ecuador was "not a poor underdeveloped country--only an underdeveloped one."[56] Transportation routes were needed to awaken hitherto dormant resources and

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[52]Pacific Line Guide to South America (London: Simpkin, Marshall, Hamilton, Kent & Co., 1895), pp. 86-88.

[53]Carbo, Historia monetaria, p. 447.

[54]Ibid., p. 448.

[55]Adamson, "Ecuador in Transition," p. 163.

[56]E.V. Miller, "Agricultural Ecuador," Geographical Review XLIX, No. 2 (1959), 207.

so enlarge the economic base of the country.

The period of "cacao prosperity" over the turn of the century enabled a start to be made on many projects, particularly railways. A combination of declining cacao exports, World War I, and loss of foreign credit prevented the termination of most of those projects. It was not until foreign credit again became available, around 1950, that a program of public works could be undertaken on a sound financial basis.

PART III

THE ORGANIZATIONAL RESPONSE TO THE CHALLENGE

CHAPTER VI

ADMINISTRATION AND FINANCES

Laws and realities

Enthusiasm for better transportation routes is no recent fad in Ecuador. Both official documents and daily newspapers from the mid-nineteenth century showed a keen awareness of the desirability of an adequate network of roads and railroads, although they also showed frequent disagreement on how to achieve this goal. "Nunca han faltado proyectos," stated Juan Menten in his report in 1892 as Director General of Public Works.[1] During the 20 years from 1885 to 1905 alone there were 441 decrees, creating over 253 projects apart from 93 ordered in the national budgets.[2]

But laws meant little. As Francisco Andrade Marín observed in his index to legislation, "tales leyes que, sobre una misma materia, se han repetido muchas veces, carecen de aplicación práctica ó han caído en desuso."[3] Since early government reports were often incomplete and official maps

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[1]Ecuador, Informe del Ministro del Interior, 1892, Part 2, p. 6.

[2]Ecuador, Informe del Ministro del Interior (Quito, 1905), p. vi.

[3]Francisco Andrade Marín, Clave de la legislación ecuatoriana (Quito: Imprenta del Gobierno, 1894), p. 13.

somewhat unreliable,[4] it is, indeed, very difficult to ascertain exactly which decrees were executed.

Juntas or centralization

Public works were administered as a branch of the Ministry of the Interior until 1930, when the Ministry of Public Works, Agriculture, and Development was created. Twice previously, in 1892 and 1897, a Ministry of Public Works had been established, but only to be abolished after a few years. The Ministry of Defense was at time in charge of transportation routes in the Oriente.

The administration of many projects, however, rested with autonomous institutions. By the law of 1835 juntas had been set up in each province to attend to roadbuilding, and in 1846 they were set up for four major routes requiring attention. Congress continued to create juntas for specific projects and in 1905 there existed 84 special juntas, each with its own autonomous organization, assigned income, and one or two public works to administer;[5] in 1960 there were nearly 800.[6]

The reason for the establishment of these juntas lay in the desire of Congress to ensure a certain continuity for public works projects in the face of the frequent changes of national government. Furthermore, since "no

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[4]Andrés F. Córdova, El problema vial del Ecuador (Cuenca: Editorial "El Mercurio," 1944), p. 25.

[5]Ecuador, Informe del Ministro de lo Interior (Quito, 1905), p. vi.

[6]Linke, Ecuador, p. 175.

fueron raros los casos en los que las contiendas políticas fueron pagadas con fondos destinados a obras nacionales,"[7] the direct assignment of specific funds to juntas, rather than a branch allocation from the national budget, seemed to ensure a regular income for each project. Local interests would be satisfied, and patriotic juntas would conscientiously promote the work entrusted to them. Some felt that decentralization was the only way to avoid unscrupulous contractors.[8] One advocate of decentralization even suggested that to ensure the completion of a 15-year transportation program an autonomous junta should be set up within the Ministry of Public Works to coordinate the work of juntas in each province.[9]

On the other hand, the proliferation of juntas was criticised from the beginning of the century as "una exagerada profusión"[10] which was "contra producentem, sobre todo en la apertura de caminos."[11] Opposition was based on an excess of administrative personnel, and the irresolution and lack of technical knowledge of these bodies. National efforts, finances, and engineers were being dispersed over

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[7]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1939-40), p. 25.

[8]Boletín Mensual de Obras Públicas, II, Nos. 21-24 (1937), 45.

[9]Ramón Insúa Rodríguez, Estudios de economía ecuatoriana (Guayaquil: Imprenta de la Universidad, 1942), I, 62.

[10]Ecuador, Informe del Ministro de lo Interior (Quito, 1922), p. xxv.

[11]Ecuador, Informe del Ministro de lo Interior (Quito, 1902, p. 15.

innumerable projects. Seven railroads under construction in 1923 appeared "una demencia ferrocarrilera;"[12] unless railroad funds were centralized under the Ministry of Public Works for work on one line at a time, it seemed none was likely to be completed. The situation was described as "haciendo lo del puerco: osar aquí, osar allá, osar acullá, remover la tierra y en ninguna parte hacer nada."[13] Most Ministers of Public Works felt that only a centralized administration would ensure the necessary coordination for completion of projects of national significance. More than one minister actually questioned the justification for the existence of the ministry;[14] one suggested that a mere Oficina de Estadística y Control de Obras Públicas would be sufficient.[15]

Several attempts were made to centralize the operations of public works. In 1906 Eloy Alfaro unified all public works in the Province of Pichincha under one Junta Directiva, apparently with laudatory results.[16] Two years later a decree centralized funds assigned to public works, although local and municipal roads remained outside the scope of the decree; but in 1909 it was decided that funds for the

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[12]El Ecuador Comercial, I, No. 2 (1923), 39.

[13]Ibid., II, No. 12 (1924), 26.

[14]Ecuador, Informe del Ministro de Obras Públicas, 1939-40, p. 26; 1949, p. 92.

[15]Ecuador, Informe del Ministro de Obras Públicas, 1939-40, p. 26.

[16]Ecuador, Informe del Ministro de lo Interior (Quito, 1912), p. xxv.

construction and maintenance of roads would again be assigned to special juntas.

Under President Ayora there was a reorganization of public works with centralization of income, so that juntas did not receive direct tax contributions but were financed through allocations by the ministry. President Velasco Ibarra also showed himself a proponent of administrative centralization and so initiated reforms in his administration between 1944 and 1947,[17] when all railroads came under state control and a 10-year roadbuilding program was started to be followed by another Plan Vial in his next administration from 1952 to 1956.[18] Political and economic upheavals continued, however, and were accompanied by the alternate centralization and decentralization of the administration of public works.

The traditional distrust of central government, growing from the stream of political instability and opportunism, had given rise to faith in the decentralization of administration. In some cases, such as the Comité de Vialidad de Guayas which was set up in 1945, the system of decentralization proved advantageous to progress.[19] The Coast had always had far fewer roads than the Sierra, and this committee gave the necessary impetus to roadbuilding in the

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[17]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1944), p. 5.

[18]Pedro Carbo Medina, Exposición sobre las obras públicas nacionales (Quito: n.p., 1956).

[19]Linke, Ecuador, p. 122.

region. For the most part, however, the disadvantages of innumerable autonomous administrative units seem to have outweighed the benefits. Although juntas could arouse local enthusiasm for public works, too often it could be said that "poquísimas juntas merecen los honores de un justo aplauso por su desempeño."[20] It was difficult to develop a longterm transportation plan in the national interest based on adequate financing and sound engineering, and even more difficult to coordinate forms of transportation, when administration was "descentralizada, desorientada y descontrolada técnicamente."[21]

Contracts

The construction of roads and railroads was either administered directly by the national or local government or an autonomous institution, or it was contracted out by these bodies to individuals or companies. Until the 1930s most major roadwork was carried out under government or junta supervision or by contracts given to nationals. The railroads were built almost entirely by contract, for the most part by foreigners.

Privileges were granted in the first century of the republic for individuals who contracted to construct or repair routes, or to communities in new colonization areas that lacked roads. As early as 1823 a Gran Colombian law

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[20]Ecuador, Informe del Ministro de lo Interior (Quito, 1904), p. xiii.

[21]Ecuador, Informe del Ministro de Obras Públicas, 1939-40, p. 26.

saw that improvements would be forthcoming "siempre que se fijen reglas claras y sencillas para la concesión de la apertura y composición de caminos y canales."[22] The granting of concessions was facilitated by the law of 1827. Such privileges included relief of tax payments, exemption from military duties, and the right to levy tolls on the roads or bridges constructed.[23]

Contracts for railways made such concessions as: the right of exploitation of the line for 50 to 100 years; an allocation of public lands alongside the track for purposes of colonization; up to a 6 per cent guarantee of annual interest payments to which customs receipts or government monopolies were often mortgaged; mining and pier rights; and a government subsidy for a certain number of years. In return the contractor would agree to build a railway of certain specifications within a limited period of time; also a telegraph line alongside the railway and sometimes pier facilities at ports, along with other lesser items.

As early as 1857 there were those who advocated giving contracts to Europeans whose "intelijencia, laborosidad y prontos recursos"[24] promised swifter progress than government-directed work. Several unfortunate experiences with insolvent foreign contractors in the extension of the

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[22]Colombia, Codificación Nacional (Bogotá, 1924), p. 245.

[23]Ibid., p. 329.

[24]Ecuador, Exposición del Ministro del Interior (Quito, 1857), p. 27.

railroad built under García Moreno changed this attitude and led to government fears of deception and public distrust of foreign entrepreneurs.[25] Eloy Alfaro pushed the Ferrocarril del Sur to completion amidst bitter controversy, which was heightened by the critical report of the national engineers who inspected the work of the company prior to government acceptance.[26] Lack of experience and too great an eagerness to see the line completed had led the government into accepting an unsatisfactory contract, a situation it tried to repair by subsequent amendments. Although the line was completed, the country paid heavily. Similar incidents occurred with the other railways, and were to crop up also with highways. It was still generally held, however, that only foreign technical competence could carry through important transportation projects. The dismal failure in 1938 of the contract with the Italian Scotoni brothers for completion of the Quito-San Lorenzo railroad somewhat changed this attitude and encouraged the formation of national companies.[27]

The Minister of Public Works in 1945 accused American

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[25]Ecuador, Informe del Ministro de lo Interior (Quito, 1900), p. xxi.

[26]Federico Páez and Manuel Navarro, Informe sobre el Ferrocarril del Sur (Quito: Imprenta y Encuadernación Nacionales, 1911); Compañía del Ferrocarril de Guayaquil a Quito, Contestación de la Compañía del Ferrocarril de Guayaquil a Quito al informe de los ingenieros Páez y Navarro (Quito: Imprenta y Encuadernación Nacionales, 1911).

[27]Boletín Mensual de Obras Públicas, II, Nos. 21-22 (1937), 45-46.

contractors of "notoria mala fé y [...] ningún sentido de responsabilidad."[28] But failures in contracts were also the fault to some extent of the government which sometimes did not make adequate studies for the basis of the contract, and at other times found itself unable to fulfill its financial obligations to the contractors. Frequently, work by direct government administration proved to be even more costly and lengthy.[29]

Income and expenditure

In the early years of the republic no specific allocation for the branch of public works was made in national budgets, or only that sufficient to cover administrative costs.[30] The report of the Minister of the Interior of 1862 is the first to list the finances of public works. In later years the allocation was not always paid in full, and seldom was it sufficient to cover the cost of the annual program of work.[31]

Income for work on roads and railways came from a multitude of sources. The law of 1825, and similar ones in 1848 and 1850, stated that the cost of work on major roads and riverways would be covered by rentas municipales

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[28]Luis Aníbal Sánchez, "Dos contratos importantes," Boletín Mensual de Obras Públicas, No. 62 (1945-46), p. 4.

[29]Murgueytio, "Memorandum," p. 21.

[30]Ecuador, Exposición del Ministro del Interior (Quito, 1854), p. 267.

[31]Ecuador, Colección de leyes, 1871, p. 302.

and trabajo subsidiario, which could be given by personal labour or a financial contribution. However, collection procedures were so ineffective and subject to such abuse that in 1858 "entre cien contribuyentes habrá uno que pague relijiosamente en dinero, cuando los noventa y nueve no lo hacen de ningun modo."[32] The Minister of the Interior and the Governor of the Province of Pichincha urged that the system be simplified and all, except genuine labourers, be required to pay the contribution in money.[33] This reform was carried out in 1860, and more effective collection procedures set up.[34] A law issued in 1869, which was referred to over many decades and amended in 1887 and 1917, applied the trabajo subsidiario and added other taxes for caminos vecinales, roads between parishes or cantons.

Innumerable other taxes, or parts thereof, were directly assigned to specific projects. To raise sums for certain roads travellers were required to pay a peaje toll and a pontazgo toll on bridges, with extra for each mule or head of cattle.[35] Forced loans, voluntary contributions, and the profits from the sale of public lands were used in some instances. In 1905 a Liberal government decided that

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[32]Ecuador, Exposición del Ministro del Interior (Quito, 1858), p. 18.

[33]Ecuador, Exposición del Ministro del Interior, 1857, pp. 7, 27.

[34]Ecuador, Informe que presenta el Secretario General del Gobierno Provisional, 1861, p. 11.

[35]See for example a law of 1839 (Ecuador, Colección de leyes, 1839, p. 510).

part of the Church income from los bienes de manos muertas should be invested in public roads.[36] In the coastal region taxes were levied on crops transported to ports. Taxes on liquor and tobacco were allocated in 1894 for opening new roads in each province, and in the 1940s liquor taxes were again allocated to extensive roadwork. In 1953 and 1954 President Velasco Ibarra set high gasoline taxes to finance his Plan Vial.

The problems of administering this complicated financial system can well be imagined: a variety of taxes, or maybe only a percentage of some, were allocated to a number of different projects controlled by autonomous entities. In many instances the government did not directly receive the revenues, nor did it have any control over the details of their disbursement. Collection and expenditure procedures invited fraudulence, or at least incompetence.

Records of these complex financial operations were inevitably incomplete. In 1945 an official admitted:

> Más es lo cierto que no se ha podido todavía, por falta de una notación suficiente, determinar los costos de cada una de las obras realizadas por o para el Gobierno del Ecuador.[37]

Without detailed knowledge of the costs of projects, it was naturally difficult for the government to draw up realistic programs and contracts.

Loans were also a source of finance for public works.

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[36]Ecuador, Registro Oficial, June 16, 1905, p. 165.

[37]Angel F. Rojas, "Aspectos administrativos," Boletín Mensual de Obras Públicas, No. 61 (1944-45), p. 61.

The credit offered to the government by national banks was often used on public works, and bonds were issued in 1948 and 1954 for specific projects. Foreign loans for public works were long cut off by the poor credit reputation of the country due to the unpaid interest on the Guayaquil and Quito Railway bonds.[38] However, an Export-Import Bank loan in 1941 of US$1,150,000 for building main roads was followed over the next 15 years by other loans for railroad rehabilitation, roadbuilding, machinery and equipment, and setting up a highway maintenance service.[39]

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[38]Linke, Ecuador, p. 163.

[39]Ibid., pp. 164-65.

CHAPTER VII

CONSTRUCTION

Roads or Rails

About the turn of the century a network of railroads seemed to many the only answer to Ecuador's transportation problems. Contracts were ratified for the construction of at least ten lines. By the 1920s, however, there was more skepticism about railroads. Only one railway had been completed, and the development of the automobile offered new possibilities for road transportation. The impact of motor transport and modern highways on the material progress of other countries, particularly North America, was noted in Ecuador.[1] Enthusiasm for a Pan American Railway gave way to promotion of a Pan American Highway. Roads for automobiles seemed to have greater advantages than railroads; an article in 1923 observed that not the least of these was "en país no industrial, montañoso y rico en material de carretera debe resultar incomparablemente más barata que una simple carrilera."[2] The railroad disaster of 1925, when the Guayaquil-Quito line was blocked for over three months, highlighted the need to repair neglected roads and

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[1]Ramón Ojeda V., "Síntesis acerca de los ferrocarriles y carreteras automovilistas," El Ecuador Comercial, I, No. 2 (1923), 52-54.

[2]Ibid., p. 52.

so provide alternate routes between the Coast and the Sierra.[3] By 1929 the First Congress of Roads and Tourism was held in Guayaquil; five years later it was stated that the continued construction of railroads in Ecuador "lejos de ser una obra patriótica, es un atentado contra el patriotismo."[4]

Investment in railroads dropped drastically after 1920, while expenditure on roads increased steadily and in 1932 overtook that on railroads. By 1935 a clear pattern of predominance of investment in roadbuilding was set. Towards the end of World War II the railroads found that their income could not cover their expenses, and nationalisation only worsened their plight.[5] Featherbedding and inefficiency spread. Lack of equipment and spare parts, an alarming increase in the cost of oil, materials, and wages was coupled with serious damage to lines from natural disasters, such as the 1949 earthquake in Ambato and the floods of the River Chanchán. The railroads were faced with a financial crisis in mid-1950.[6]

The railroads required constant investment in track and equipment, but the money was not forthcoming. Plans for rehabilitation were drawn up in 1928 by the North

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[3]El Ecuador Comercial, III, No. 22 (1925), 38.

[4]Horacio A. Cantos, "El plan de vialidad que el Ecuador debe desarrollar para su incremento económico," Revista Militar, II, No. 9 (1934), 28.

[5]Murgueytio, "Memorandum," p. 7.

[6]Ecuador, Informe del Ministro de Obras Públicas, 1949-50, pp. 123-48.

American firm of Coverdale & Colpitts. In 1944 a plan of renovation, and completion of the lines to Cuenca and San Lorenzo, was presented by Elliot Vandercook. This was followed by a comprehensive transportation study by the Mexican Jorge Tamayo in 1950, and a further study of the railroad situation by Francis Hoskins for the International Bank of Reconstruction and Development in 1955. None of these plans was seriously implemented; others were to follow.[7]

The railroads were subject to taxes that supported many other public projects, and the Ferrocarril del Sur was obliged to transport petroleum at an uneconomical rate from the Coast to the Sierra. Government departments failed to pay promptly for services rendered and many government employees were allowed free passage by rail.[8] Automotive transport, which was not subject to such restrictions and was not required to pay for the building and maintenance of roads until the gasoline taxes were imposed, was able to flourish. Even if, as some assumed, railroads had been built "no con el fin de obtener una reproductibilidad de los capitales invertidos, sino con el objeto de contribuir al desarrollo general del país,"[9] burdened with taxes and without sufficient investment for maintenance they could

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[7]Junta Nacional de Planificación y Coordinación Económica, Evaluación del programa de transportes, pp. 127-28.

[8]Ecuador, Informe del Ministro de Obras Públicas, 1949-50, pp. 123-48.

[9]Boletín Mensual de Obras Públicas, Nos. 66-67 (1948), p. 189.

not compete with highways and were doomed to become obsolete.

Numerous pleas for the harmonization of transportation forms were made. A North American engineer contracted by the government stated bluntly in 1940: "Carreteras por construirse cuyas rutas sean paralelas a líneas de ferrocarriles o vías fluviales deben ser construídas en último término."[10] Yet another North American transportation expert insisted four years later that it was essential to eliminate and avoid the duplication of expensive, superfluous, and unnecessary services.[11] J. Augusto Murgueytio presented a program for coordination of transportation forms at the Sixth Pan American Congress of Railroads, and again at the First National Congress of Railroads in 1949.[12] Ministers of Public Works, transportation experts, and the Junta Nacional de Planificación y Coordinación Económica emphasized the importance of a truly coordinated transportation plan under a centralized administration. All of this concern was in vain. Highways were built alongside railroads, and since the lines Ambato-Pelileo, Manta-Santa Ana, and Guayaquil-Salinas could not compete with road traffic, the rails were torn up. With so few transportation

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[10]Harry Pendleton Hart, Determinación de un sistema de carreteras nacionales (Quito: Talleres Tipográficos del Ministerio de Hacienda, 1940), p. 3.

[11]J. Augusto Murgueytio D., "Contribución al estudio del tema sobre 'Coordinación de los diversos medios de transporte' en el Primer Congreso Nacional de Ferrocarriles," Quito, 1945, p. 2. (Typewritten.)

[12]Ibid.

routes in relation to its territory, the country could ill afford duplication.[13]

Roads

During the nineteenth century main roads were in very poor condition. Only the Carretera García Moreno, about 165 miles long, had the characteristics of a major thoroughfare for its time:

> It has 101 arched stone bridges of plain, but good design and workmanship. It has 132 culverts. Its gradients and curvature are easy; its width varies from 24 to 28 feet, with proper side ditches and drainage. It is paved from side to side with cobblestones for many miles of its course.[14]

Local roads were in a far worse condition than the main roads:

> Los caminos llamados vecinales, generalmente son angostos y malos, debido á la incuria de los propietarios que necesitan de ellos, y también á las frecuentes depredaciones que hacen los mismos vecinos enangostándolos, cerrándolos y hasta destruyéndolos intencionalmente.[15]

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[13]It is interesting to note the complaint of the Junta Nacional de Planificación y Coordinación Económica in 1969: "A causa de la falta de confianza en el Gobierno Central y en razón de un excesivo regionalismo, el transporte nacional ha sido diluído, diversificado, dando como resultado una inútil duplicación de esfuerzos y de inversiones y una absurda fragmentación de recursos. La política débil y desorganizada de la administración del transporte nacional es incapaz de realizar efectivamente las recomendaciones de un Programa de Transportes para alcanzar las metas del crecimiento económico." (Evaluación del programa de transportes, p. 193).

[14]U.S., Ecuador in 1881, p. 6.

[15]Francisco Moscoso, Cuadro sinóptico de la Provincia de Tungurahua (Ambato: Imprenta del Tungurahua, 1893), p. 23.

In 1840 when trains were running in England and Cuba not even a stage-coach travelled the roads of Ecuador.[16] A generation later the North American minister encountered only two carriages in Guayaquil.[17] After the construction of the Carretera García Moreno, however, diligences plied the route between Quito and Riobamba. They almost disappeared with the deterioration of roads but returned as the Guayaquil-Quito railway was being constructed to take passengers to the capital from whichever town the line had reached. A trip over Ecuadorean roads in a diligence, "un carretón cerrado, enorme, cubierto de lonas, halado por cuatro mulares,"[18] was a most uncomfortable experience.[19]

By the 1920s major roads were being adapted for automobiles. Laws were issued declaring certain routes to be of national importance, and the Ley de Caminos of 1927 established categories of roads.[20] By no means did all reach a standard condition. Few were provided with adequate culverts, drainage, and embankments and the average width was not more than 8 metres, with maximum grades of

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[16]Humberto Toscano, ed., El Ecuador visto por los extranjeros: viajeros de los siglos XVIII y XIX (Puebla, Mexico: J.M. Cajica, Jr., 1960), p. 29.

[17]Friedrich Hassaurek, Four Years among the Ecuadorians, ed. by C. Harvey Gardiner (Carbondale and Edwardsville: Southern Illinois University Press, 1967), p. 3.

[18]Marco A. Bustamante Y. and Víctor Manuel Madrid A., Monografía de la Provincia de Pichincha (Quito: Talleres Gráficos del Servicio de Suministros del Estado, 1952), p. 214.

[19]J. Delebecque, A travers l'Amérique du Sud (2nd ed.; Paris: Plon-Nourrit et Cie., 1907), pp. 42-44.

[20]Ecuador, Registro Oficial, February 19, 1927.

7 per cent, and the minimum radius of curves around 25 metres.[21] Some roads were surfaced with cobblestones, macadam, or gravel; others were simply levelled. With increasing numbers of motor vehicles in the country, road surfacing became of great importance.

The first cars in Ecuador travelled with some difficulty over the Carretera García Moreno in 1905.[22] By 1912 Ford Motor Company was advertising in Guayaquil, "Automóviles Americanos. Muy buenos para malos caminos;"[23] and Arthur Veatch tells in 1917 how he was met on the outskirts of Ibarra by an automobile that had been brought in pieces over the mountain trail from Quito and was the pride of the town.[24] Of 1,872 motor vehicles in the country in 1928, 68 were buses and 506 were trucks.[25] The number of automobiles had doubled some ten years later and more than quadrupled by 1954.[26] At that time only 209 kilometres of highways were asphalt-surfaced, and still almost half of

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[21]Luis T. Paz y Miño, Monografía de la Provincia de Pichincha (Quito: Tipografía y Encuadernación Salesianas, 1922), p. 18.

[22]Murgueytio, "Memorandum," p. 2.

[23]Guayaquil en la mano, 1912 (Guayaquil: Imprenta La Reforma, 1912), p. 60.

[24]Arthur Clifford Veatch, Quito to Bogota (New York: George H. Doran Company, 1917), p. 45.

[25]Raul C. Migone, et al., Interamerican Statistical Yearbook, 1940 (New York: The Macmillan Co., 1940), p. 455.

[26]Junta Nacional de Planificación y Coordinación Económica, Evaluación del programa de transportes, p. 104.

all roads were impassable during the winter months.[27]

In 1948 the Director General of Public Works admitted frankly:

> El Ecuador no tiene caminos. Los que actualmente existen no proporcionan un transporte fácil y económico pues sus características de pendiente, ancho, superficies de rodadura, son bastante defectuosas.[28]

It was not until 1953 that the Ministry of Public Works published "Especificaciones Técnicas para la Construcción de Carreteras y Puentes" which controlled construction practices on both contracted and government projects.[29]

Railways

The Ecuadorean railways, all single track lines, were built with three different gauges. The four lines that connected with one another (Guayaquil-Quito, Ambato-Pelileo, Quito-San Lorenzo, Sibambe-Cuenca) were all narrow gauge, 3 feet 6 inches wide. A line that could have been added to this network, the A La Costa railway (Guayaquil-Salinas), was the only standard gauge, 4 feet 8½ inches, in the country. The short lines in Manabí (Manta-Santa Ana, Bahía-Chone) and in El Oro (Puerto Bolívar-Pasaje, Puerto Bolívar-Piedras) were built with a gauge of 2 feet 5½ inches, but the Puerto Bolívar-Pasaje branch was changed to 3 feet 6

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[27]Ecuador, Dirección General de Obras Públicas, Mapa de carreteras construídas hasta 1953, Quito, 1954.

[28]Modesto Ponce Martínez, "La construcción de carreteras y caminos," Boletín Mensual de Obras Públicas, Nos. 66-67 (1948), p. 34.

[29]Junta Nacional de Planificación y Coordinación Económica, Evaluación del programa de transportes, p. 1.

inches in 1910.

The Guayaquil-Quito railway was the only line to reach completion before 1954, climbing the west face of the Andes to a height of 11,841 feet with a maximum gradient of 6.6 per cent, greater than that of any other line. Steam locomotives were used for long on most lines, with imported coal, local and imported oil, or local wood used as fuel. Gasoline railcars were introduced for passenger traffic. All locomotives and equipment had to be imported from abroad, usually from North America, Germany, France, or Great Britain.

Bridges

"Un puente más, un abismo menos," was the saying in highland Ecuador.[30] In a country with so many rivers and ravines, bridges and viaducts were an essential and expensive item in building roads and railroads. They were also the part most liable to damage by natural disasters such as floods and earth movements. Although almost every administration inaugurated several bridges, there was always a deficiency. Travellers in the nineteenth century tell of wading and swimming across rivers and descending and climbing out of deep gorges.

Many of the types of bridges introduced by the Incas were retained. With fine hardwoods available in the lowland areas of the country, wooden bridges were common.

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[30]C.E. Zabala, "Las obras públicas de Pichincha," Boletín Mensual de Obras Públicas, III, Nos. 26-31 (1938), 56.

Iron bridges had to be imported and were consequently very expensive although imperative in some heavily-travelled sections, and they came to be used more and more. Stone masonry bridges were widespread, and the establishment of a Portland cement factory in Guayaquil in 1934 made reinforced concrete bridges an economical proposition.[31] In 1935, of 26 bridges built by the Ministry of Public Works, 15 were of reinforced concrete, 5 of steel, 1 of stone masonry, 4 of wood, and 1 a hanging bridge.[32] The greatest of Ecuadorean bridges, the Guayas River bridge, was a long-held aspiration but not a realization until 1970.

Engineers

Before the time of García Moreno there were no training facilities to promote the profession of engineering in Ecuador,[33] and so foreign engineers had to be engaged to plan and direct public works projects. Adolfo Gehin, Christopher Thill, James H. Wilson, and Tomás Rodil were some who lent their skills to the furtherance of Ecuador's transportation system. One of the earliest and most famous was the Frenchman Sebastian Wisse who was under contract to the Ecuadorian government from 1843 to 1850. Wisse explored the routes from Quito to Manabí and Esmeraldas, and worked

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[31] Boletín Mensual de Obras Públicas, II, Nos. 13-15 (1937), 13.

[32] Ibid., I, Nos. 6-7 (1936), 37.

[33] Luis F. Madera, "Modesto López," Boletín de la Academia Nacional de Historia (Quito), XXV, No. 65 (1945), 105.

on the road from the capital to Guayaquil. Recalled to Ecuador in 1861 by his friend García Moreno, he designed and directed operations on the famous Carretera Nacional and worked on the road north from Quito to Ibarra before his death in 1863.[34]

The Polytechnic Institution, the inspiration of García Moreno, was responsible for the training of young national engineers such as Eudoro Anda, Alejandro Sandoval, Antonio Sánchez, Lino Flor, Gualberto Pérez, and J.B. Dávila.[35] Perhaps the most outstanding national engineer of the nineteenth century was Modesto López, who was entrusted by García Moreno and later administrations with studies of the route of the Ferrocarril del Sur, and of the roads Quito-Ibarra, Loja-Santa Rosa, Ambato-Canelos, and the route to El Pailón. The year before his death in 1900 he was named chief civil engineer of the country.[36]

The first stage of the Guayaquil-Quito railway was planned by the foreign engineers Henry McClellan and Francis Merrill, and the line was extended by the wealthy English engineer and entrepreneur Mark Jameston Kelly. When the project was revived by Eloy Alfaro, with preliminary plans drawn up by J. Sigvald Muller, several more well-known foreign engineers worked on the route, including

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[34]Julio Tobar Donoso, "El ingeniero Sebastian Wisse," Boletín del Archivo Nacional de Historia (Quito), XL, No. 94 (1959), 172-211.

[35]J.L.R., Historia de la República del Ecuador, III, 227.

[36]Madera, "Modesto López," pp. 105-114.

Ernest Malinowsky, the Pole responsible for the Peruvian railroad to Oroya, and the North American Colonel William F. Shunk, who had charted the route of the Pan American Railroad through Costa Rica, Colombia, and Ecuador from 1891 to 1893. John Harman, brother of contractor Archer Harman, became Chief Engineer for the railway from 1900 until his death by fever in 1907.

Foreign engineers continued to build and administer Ecuadorean railroads. J.C. Dobbie and W.C. Simmons carried out the repairs to the Guayaquil-Quito line after the Chanchán disaster of 1925, and contracted for construction of the Sibambe-Cuenca and Quito-San Lorenzo lines. Dobbie was chosen as the first president of the Guayaquil-Quito railway after the government became the principal shareholder. Other foreign engineers, such as Ricardo Wulckow, Julio Rosenstock, and Jaroslav Jizba, were also asked to direct work on several lines.

The two young national engineers who were called upon by the government to inspect the work of the Guayaquil and Quito Railway Company, Manuel Navarro and Federico Paéz, proceeded to play important roles in the progress of public works. Navarro, a graduate of Massachusetts Institute of Technology, took over the contract for the Ferrocarril de Los Ríos in 1914, and then became "uno de los buenos presidentes"[37] of the Ferrocarril del Sur in 1927. Paéz charted routes into the Oriente and from Latacunga to

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[37]Astudillo, "Los ferrocarriles ecuatorianos," p. 4.

Manabí. In 1935 he became Minister of Public Works, and then in the same year was chosen by the military junta to govern the country. He gave great encouragement to public works programs, naming as his minister of that branch the competent and enthusiastic engineer Heliodoro Ayala.

The country profited from the work of many other fine national engineers, including José Pons, a Director General of Public Works, and army Colonel Ricardo Astudillo and Gabriel Noroña, both of whom became Ministers of Public Works. However, in 1938 there was still a scarcity of technically trained personnel to plan and direct all of the projects.[38]

Labour

Both the Indian and the Spanish civilizations contributed a traditional labour system for public work. The Indian *minga*, a collective undertaking of communal work projects, was not dissimilar from the *prestación* practice found in the Spain of Alfonso X.

Road upkeep in Spain was managed by the custom of *ir a sestaferia*, and encouraged by the Church which gave indulgences for roadwork.[39] The Gran Colombian law of 1825 applied a similar system of *servicio personal* for road upkeep. All citizens were required to work for four days a year on roads, or provide a substitute or sum of money.

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[38]Ecuador, *Informe del Ministro de Obras Públicas* (Quito, 1938), p. 28.

[39]Menéndez Pidal, *Caminos*, p. 56.

The decree of 1836 clearly states that there were to be no exemptions:

> Los hacendados i chacareros, las parcialidades de indíjenas, los mozos blancos, los establecimientos rurales pertenecientes á relijiones de toda especie, están obligados al trabajo común de los caminos, calzadas, puentes, &c. porque el beneficio es de la jeneralidad de los habitantes.[40]

In 1848 social offenders were added as a source of labour.[41]

We learn from official reports, however, that the results of these arrangements were not satisfactory. The people of Biblián and Azogues actually mutinied in 1856 "por la imprudencia con que se les exijia el importe del trabajo subsidiario";[42] and in 1867 some cantons refused to work on the carretera nacional, thus almost paralyzing the project.[43] At times the provincial governors and municipal councils were lax in their application of the law,[44] and since the financial contributions proved difficult to collect, it resulted that "solo la clase mas desvalida de la sociedad, es decir, la clase indígena, sea la única que pague el impuesto con el sudor de su frente."[45] Two years later this situation was remedied to some extent when collection procedures were simplified by accepting only

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[40]Ecuador, Colección de leyes, 1836, p. 113.

[41]Ibid., 1848, p. 5734.

[42]Ecuador, Exposición del Ministro del Interior, 1856, p. 13.

[43]Ibid., 1867, p. 29.

[44]Ibid., 1849, p. 22.

[45]Ibid., 1858, p. 18.

financial contributions, except for bona fide labourers.[46] To further promote roadbuilding at the local level Congress decided in 1869 that the executive could grant the requests of any canton or parish for the regular trabajo subsidiario of four days plus two additional days for work on roads in their districts.[47] This law was frequently appealed to by communities even in the next century.

Labour problems still dogged public works, however, and in 1871 García Moreno was empowered to regulate working conditions, prevent maltreatment of workers by employees, increase wages, and contract foreign labourers.[48] In the early years of the next century the Guayaquil and Quito Railway Company found that the highland Indians could not tolerate the climatic conditions of the Coast and introduced 5,000 coloured labourers from Jamaica, Puerto Rico, and Barbados.[49] Chinese coolies, the labour supply for the Peruvian railroads, were not permitted to enter Ecuador by a law of 1899. A couple of hundred white men, mostly North Americans, were employed as skilled labour on the railroad.[50]

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[46]Ecuador, Informe que presenta el Secretario General del Gobierno Provisorio, 1861, p. 11.

[47]Ecuador, Colección de leyes, 1869, pp. 54-57.

[48]Ibid., 1871, p. 267.

[49]Eva Loewenfeld, "The Guayaquil and Quito Railway, Ecuador," Southwestern Social Science Quarterly, XXVII, No. 1 (1946), 78.

[50]Council of the Corporation of Foreign Bondholders, Twenty-eighth Annual Report (London: Council House, 1901), p. 128.

In the twentieth century the destajos system was increasingly used for road construction and maintenance. By this arrangement a band of workers, sometimes a family, would agree to complete a project within a time limit for an agreed price. Even today it is not uncommon to see Indian men and women laying cobblestones or performing other work on local roads.

The idea of community labour for roadbuilding was revived by the Ley de Conscripción Vial of 1944, whereby all men residents in the country between 18 and 50 years of age were obliged to work for four days each year on national roads or pay a sum equivalent to a worker's wage. Unfortunately, too much of the money raised disappeared in administrative expenses,[51] and little headway was made on major roads. In 1951 Congress abolished the law, declaring it unconstitutional.[52]

The minga was an institution of the aboriginal tribes of Latin America. In colonial times the Spaniards adopted the system, using Indian labour to carry out public works, and in the twentieth century its application to roadbuilding was revived. Dario Guevara, in his study of the minga in Ecuador, states: "Las mingas en pro de la vialidad son las más frecuentes y las más valiosas en la actualidad

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[51]Murgueytio, "Memorandum," p. 23.

[52]Fernández Alonso, "Comunicaciones en un país andino," p. 429.

ecuatoriana."[53]

According to one account, the first modern instance of a route *minga* was in 1915 when the impoverished community of Cotacachi donated its labour to prepare the roadbed of the Quito-San Lorenzo railroad.[54] Enthusiasm for the idea quickly spread throughout the highlands. Whole communities, or a group of towns, would gather for several days with pick and shovel often to work day and night on a project. On one occasion 10,000 people turned up for a three-day *minga* in Carchi province and constructed 12 kilometres of roadway.[55] Workers were stimulated in their endeavors by a free supply of liquor. In his novel *Huasipungo*, Jorge Icaza dramatically describes the abuses to which the Indians could be subjected on these occasions.[56] On the whole, however, the *minga* proved to be a highly successful institution in Ecuador,[57] particularly promoting local roads, the Pan American Highway in Carchi, and the railroads Quito-San Lorenzo and Sibambe-Cuenca.

The Armed Forces must be credited with having lent a ready hand in construction of roads and railroads. At

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[53]Dario Guevara, *Las mingas en el Ecuador* (Quito: Editorial Universitaria, 1957), p. 79.

[54]Edwin Ferdon, "A Mountain Colony in Ecuador," *El Palacio*, LII, No. 7 (1945), 133.

[55]Ecuador, *Informe del Ministro de Obras Públicas* (Quito: 1931-32), p. 12.

[56]Jorge Icaza, *Huasipungo* (5th ed.; Buenos Aires: Editorial Losada, 1969), pp. 74-108.

[57]Ecuador, *Informe del Ministro de Obras Públicas*, 1948-49, p. 10.

different stages the military was encharged with all road-building in the Oriente. Their contribution was not limited to that region. Engineering battalions worked on the Quito-San Lorenzo railway, and undertook entire sections of construction of the lines from Sibambe to Cuenca and Guayaquil to Salinas. Roads also were attended by military contingents. The present policy of civic action in the Armed Forces continues the tradition of supplying technical and manual help for public works.

Maintenance

It might be said that the greatest single drawback to transportation development in Ecuador was the failure to consolidate the gains made in construction of roads and railroads by providing proper and regular maintenance. So often routes were allowed to deteriorate or even disappear, particularly in areas of tropical growth. Over the years large sums of money and strenuous efforts were dedicated to certain projects, but with few permanent results. It was easier to arouse enthusiasm and obtain funds for new projects than for the even more important task of maintaining old routes in good condition. The chronic state of the railroads in the 1950s was largely the consequence of inadequate maintenance due to lack of funds.

Colonization was long considered an effective way of promoting road upkeep in remote regions. Plans to settle the Oriente usually envisaged the colonies as instrumental

in protecting the penetration routes.[58] Between the turn of the century and World War I several projects were proposed for European immigrants to colonize areas of Ecuador, but none materialized.[59] Austrian settlers who arrived in 1926 left soon afterwards. The government turned to planning colonization by nationals, particularly migrants from the over-populated Sierra; spontaneous migration also led to new colonies in remote areas. It was found, however, that some colonies had to be abandoned for lack of transportation routes to a market.[60] Roads were needed before any large-scale colonization would follow.

From the earliest days of the republic it was realized that tambos, where travellers could find shelter and provisions, were essential to keep routes alive. Extensive privileges were granted to tamberos by laws of 1825 and 1839. The government also gave orders for the construction of new inns in such desolate areas as the "desert of Chimborazo," and along the roads being opened to Manabí and Esmeraldas.[61]

Conditions in these tambos were usually appalling. Edward Whymper sardonically remarked:

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[58]Francisco Andrade Marín, Viaje a la región oriental del Ecuador (Quito: Imprenta de Tipos de M. Rivadeneira, 1884), p. 10.

[59]Francisco Banda C., "Immigration and Colonization Problems of Ecuador," El Ecuador Comercial, V, No. 43 (1927), 70-75.

[60]Boletín Mensual de Obras Públicas, I, No. 11 (1937), 16.

[61]Ecuador, Colección de leyes, 1839, p.556; 1869, p.126.

> An Ecuadorean tambo is meant to give shelter to drovers and mule-drivers. These classes commonly carry food with them, for economy, and are content to sleep in pigstyes. The tambo meets their requirements, and seldom contains accomodation or food for the few others who travel in Ecuador.[62]

The tambo of Chuquipogyo, built by order of President Rocafuerte, was especially notorious. Friedrich Hassaurek, a North American minister to Ecuador, wrote, "The Ecuadorian tambos or stopping places are all bad, but Chuquipoyo [sic] deserves the crown of wretchedness."[63] Only too often the tamberos completely ignored their obligations. On the Esmeraldas road it was observed that "los tamberos no tienen tambos, ni los camineros cuidan su camino."[64]

In 1937 a plan was proposed for the state to settle tamberos camineros at every four kilometres along new roads and so provide for the maintenance of the routes.[65] This proposal was not realized. It was not until the country was conceded a loan of US$1,500,000 by the Export-Import Bank in 1950 that road maintenance was put on a sound basis with mechanical equipment available.[66]

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[62]Edward Whymper, Travels amongst the Great Andes of the Equator (London: John Murray, 1892), p. 11.

[63]Hassaurek, Four Years among the Ecuadorians, p. 36.

[64]J. Luis Clavijo, Santo Domingo de los Colorados: su porvenir. Continuación (Quito: Tip. de la Escuela de Artes y Oficios, 1908), p. 9.

[65]C.E. Zabala, "Nuestra crisis," Boletín Mensual de Obras Públicas, II, Nos. 21-22 (1937), 46-47.

[66]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1950-51), p. 29.

The construction and maintenance of roads in Ecuador was long dependent on purely manual labour. Albert Franklin concluded that this was a satisfactory method for Ecuador while hand labour was so cheap. He had discovered that the road between Macuchi and Pilaló had been built with hand labour more speedily and as soundly as the Cuenca-Loja road where Ambursen Engineering Company were using road-building equipment.[67] Nevertheless, machinery was able to tackle many construction problems far more competently than hand labour, and in some areas a cheap ready supply of labour was not available.

Construction and maintenance were tied together in a vicious circle by the problem of finances. Roads and railroads with small allocations were imperfectly built and consequently demanded constant heavy expenditure in repairs.

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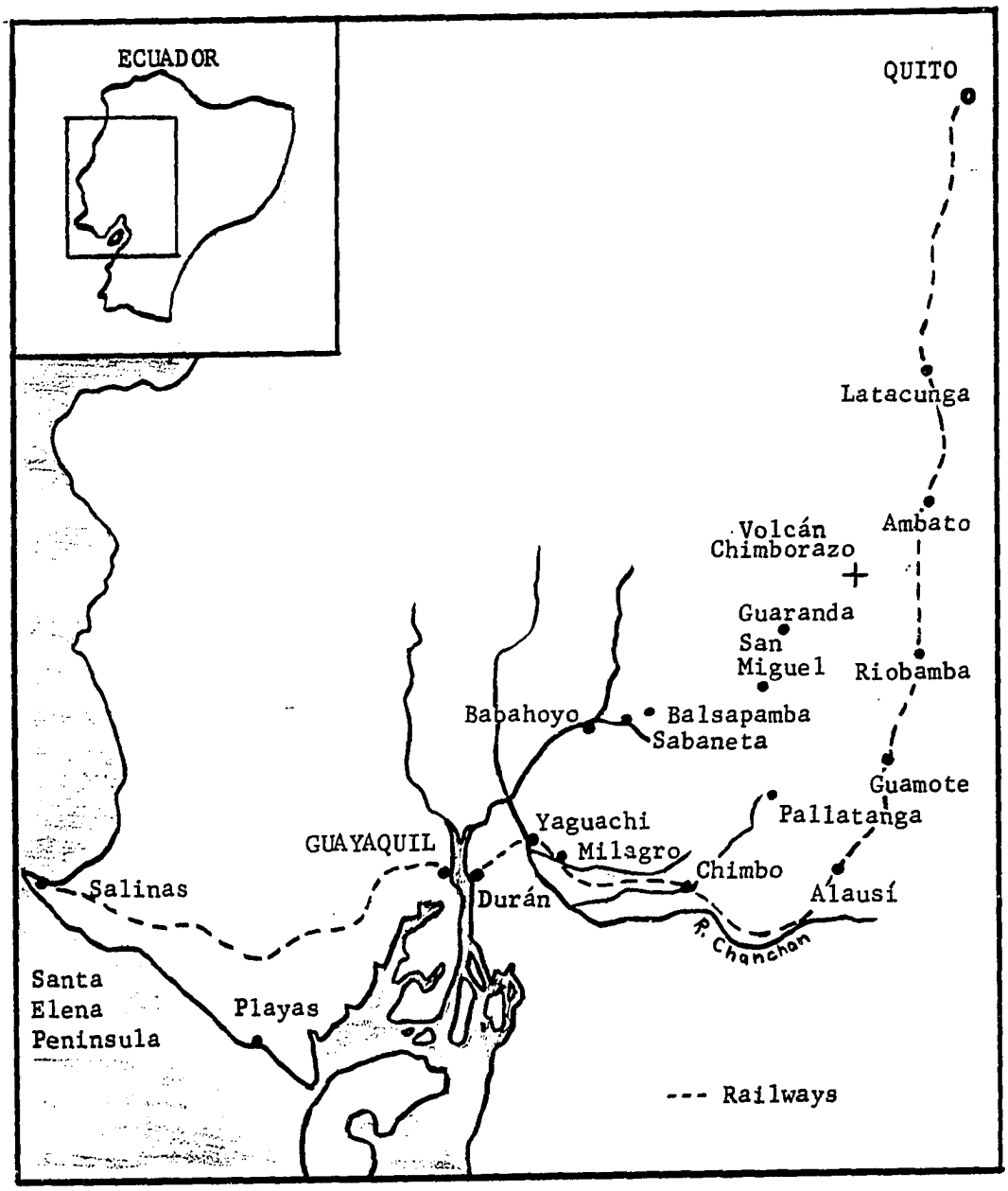
[67]Albert B. Franklin, Ecuador: Portrait of a People (New York: Doubleday Doran & Co., 1943), p. 74.

PART IV

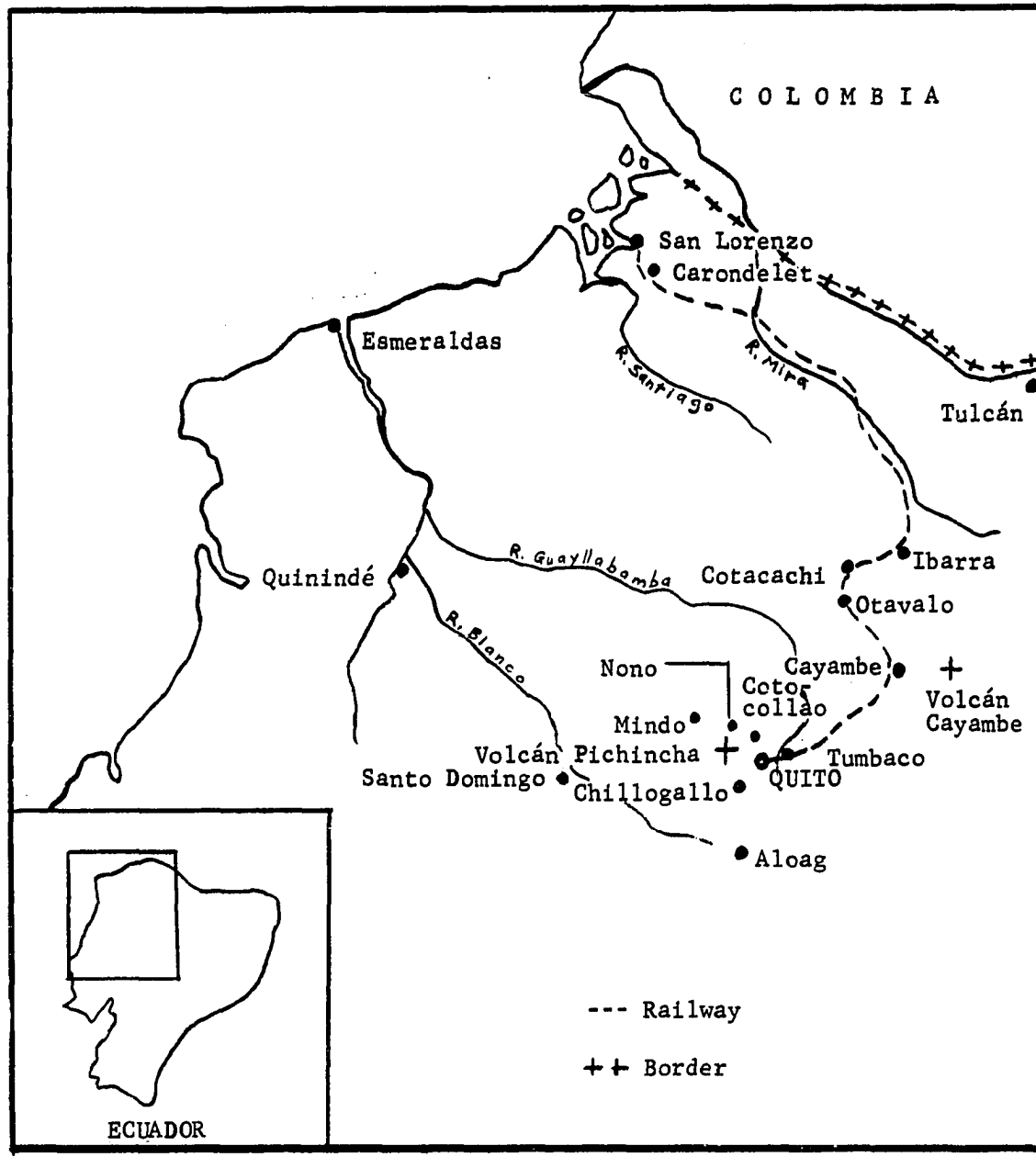
MAJOR LAND ROUTES

PLATE IV



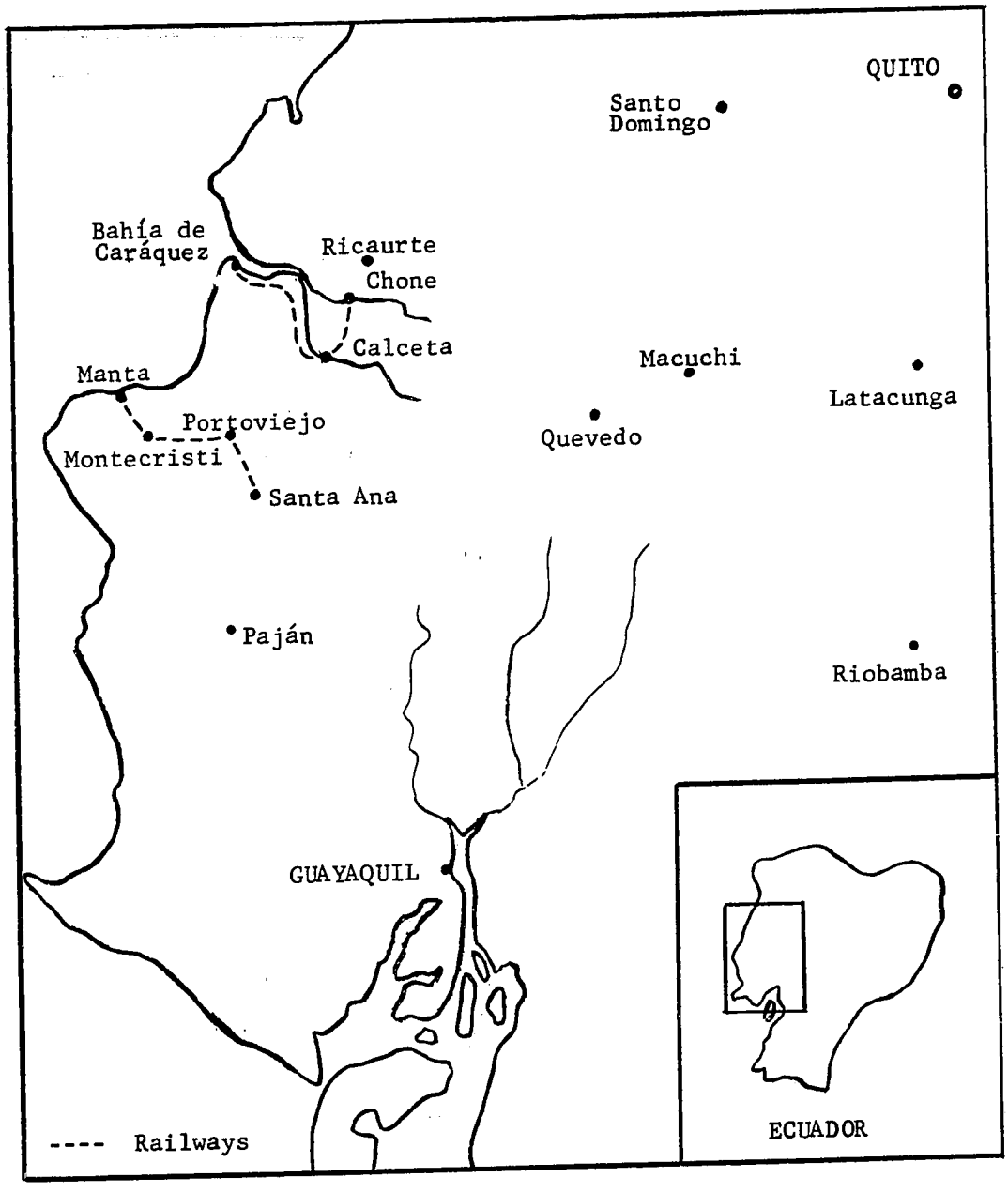
QUITO TO GUAYAQUIL AND SALINAS

PLATE V



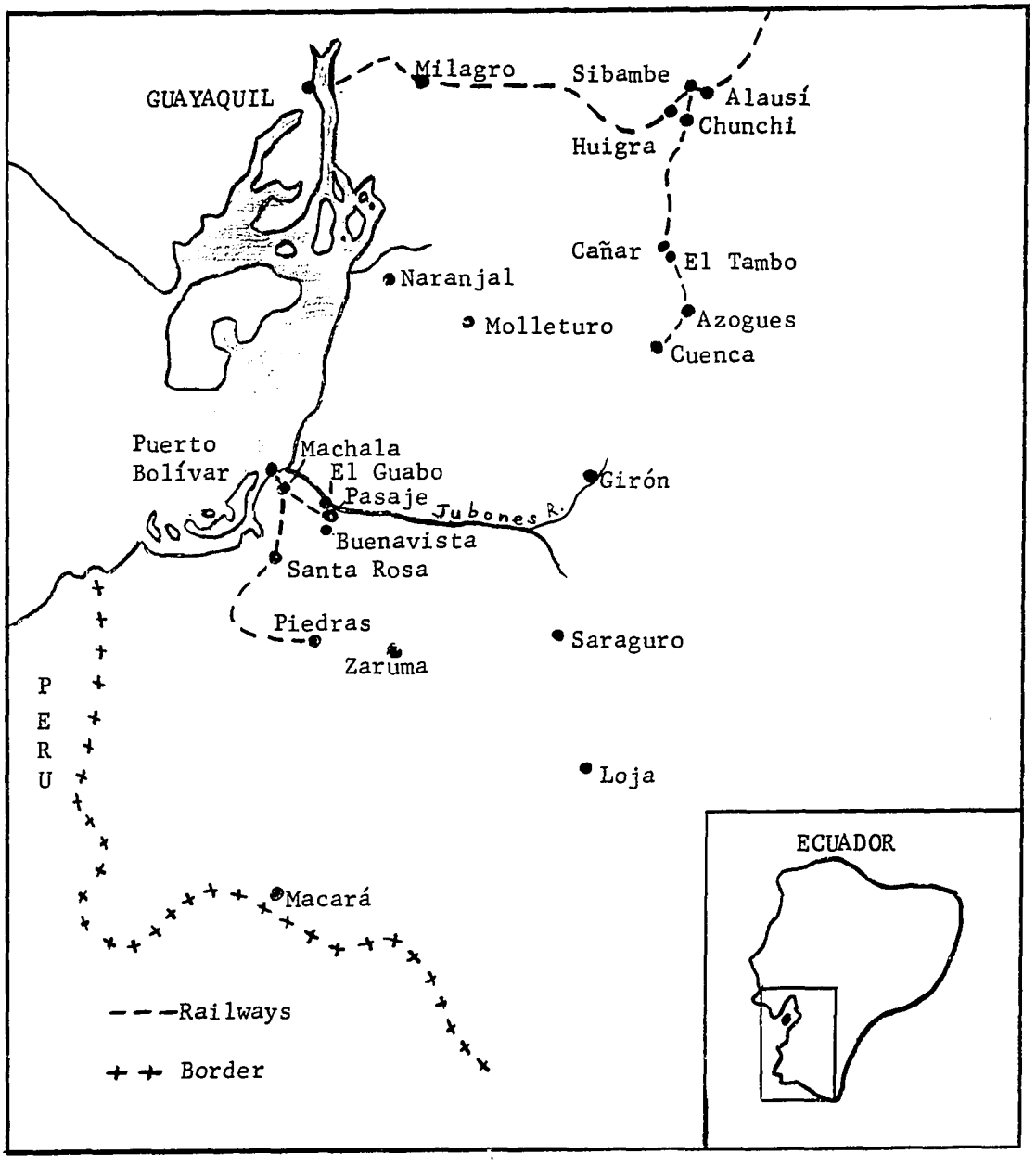
QUITO TO ESMERALDAS

PLATE VI



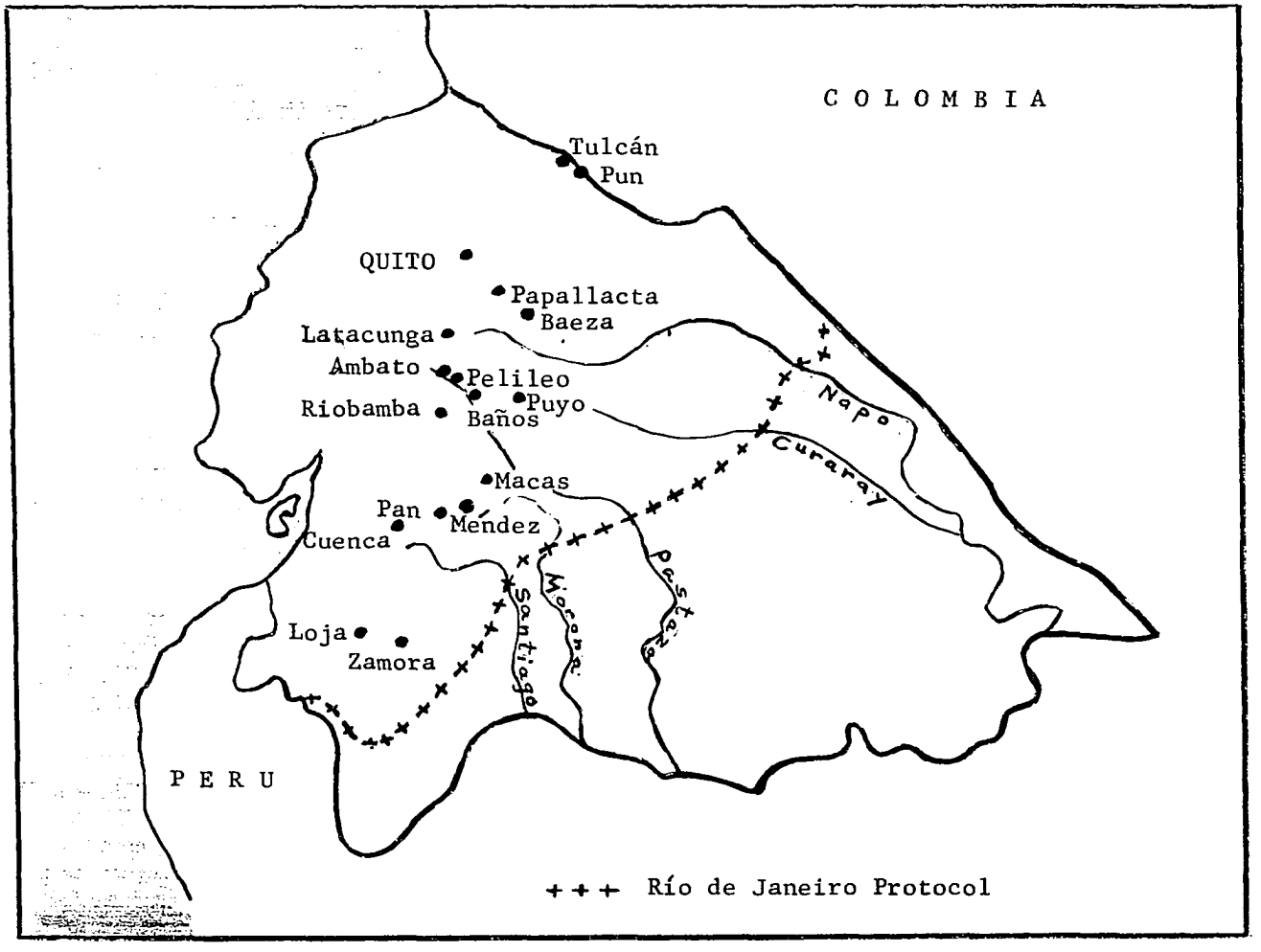
QUITO TO MANABI

PLATE VII



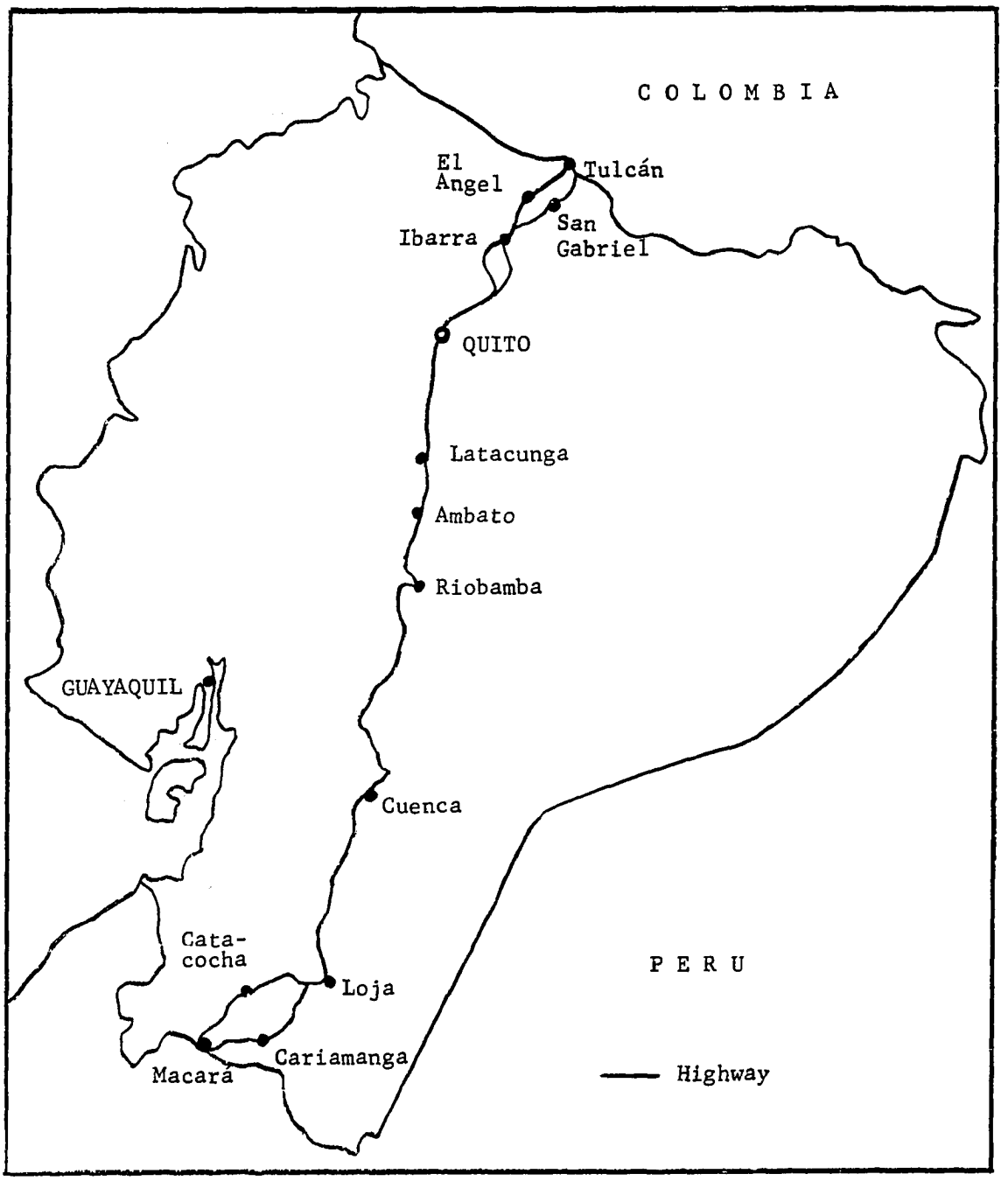
ACCESS TO THE OCEAN FOR THE SOUTHERN PROVINCES

PLATE VIII



PENETRATION OF THE ORIENTE

PLATE IX



ALONG THE SIERRA: THE PAN AMERICAN HIGHWAY

By Road

The road from Guayaquil to Quito, known as the camino real, had received scant attention from the colonial government and the early decades after independence brought little change. For the six to eight months of the rainy season the trail was almost impassable and commerce was virtually brought to a halt. Covering some 260 miles and climbing to around 12,000 feet, the trip could take from one to two weeks depending on the weather and the haste of the traveller.[1]

Babahoyo, sometimes called Bodegas de Babahoyo or just Bodegas, lay some 50 miles upstream from Guayaquil. Since colonial days it had been the location of the customs house for goods passing to and from the Province of Guayas, and also the site of the government warehouses for salt, cacao, and wood. As the whole area was flooded in the winter, the officials and merchants moved fifteen miles further upstream to Sabaneta.

The traveller or trader on his way to the interior made preparations in Babahoyo for the strenuous trip ahead. Mules or horses and arrieros (muleteers) had to be hired and provisions acquired. The limited number of mules for the carriage of goods meant that there was "always an

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[1]The following description of a journey from Guayaquil to Quito is a composite picture drawn from accounts by travellers in the nineteenth century. Humberto Toscano provides a useful, though not exhaustive, compilation of travel narratives in El Ecuador visto por los extranjeros: viajeros de los siglos XVIII y XIX.

excess [of goods] waiting, in some cases for upwards of twelve months."[2] All packages had to be of roughly the same size, and boxes with articles from Europe were packed in waterproof leaves (bijao) and sacks.[3] One traveller tells of witnessing 24 Indians starting for Quito bearing on their heads a piano in a great box. The cost of transportation was almost equal to the original price of the piano.[4] An even more exotic package consisted of fish sent in blocks of ice each week to the President of Ecuador by a Frenchman--truly a royal gift over such a road.[5]

The oft-quoted Spanish adage "Salir de la posada es la media jornada" applied to travelling in Ecuador. But once on his way from Babahoyo, the wayfarer traversed humid, sometimes swampy, tropical lowland to the foot of the Andes. From here the difficulties of the journey multiplied. The Peruvian Chargé d'Affaires, in a letter to his family in 1851, invited them to imagine some of the tribulations of his trip:

> Supónganse Uds. que se les propusiera subir a mula siete a ocho torres de Santo Domingo por una escalera de piedra desigual, movediza, llena de agua y lodos, resbalosa, estrecha, entre una senda

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[2]Carlos Wiener, América pintoresca. Descripción de viajes al nuevo continente (Barcelona: Mantaner y Simón, 1884), p. 7.

[3]G.J. Pritchett, "Explorations in Ecuador in the Years 1856 and 1857," Journal of the Royal Geographical Society, XXX (1860), 65.

[4]Frank G. Carpenter, Lands of the Andes and the Desert (Garden City: Doubleday Page & Company, 1926), p. 45.

[5]Delebecque, A travers l'Amérique du Sud, p. 35.

> obscura, cubierta de arboles, llenas de aguas y de ramas que le amenazan sacarle los ojos, aturdiéndole los oídos el fúnebre sonido de los vientos, de las aguas, de los animales silvestres...[6]

The same camellones, unbridged streams, and dangerous passes of colonial days faced the traveller in the first century after independence.

After three to four days of passing through dense tropical forest vegetation, the traveller reached the cultivated valley of Guaranda at a height of 8,753 feet. Here he bought provisions and changed his mules "for others of harder hoofs and surer tread, to climb the rough incline of the mountain."[7]

Ahead lay the ascent of loftier ranges and the crossing of the bleak windy desert of Chimborazo (El Arenal). Precipices increased as vegetation diminished. Respiration became difficult as the altitude and exhaustion took effect. The clouds covering the slopes of Chimborazo occasionally opened and the traveller caught sight of the enormous snow-clad volcano set in a desolate sandy wasteland. Violent winds, particularly in the afternoon, drove sand and stone at his face, sometimes even tumbling him off his steed. James Orton described this day's trip as "one of the loneliest rides earth can furnish. Not a tree nor human

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[6]Francisco de Paula Moreyra Avellafuertes, "Viaje de Guayaquil a Quito en marzo de 1851," Mercurio Peruano, XXVII, No. 305 (1952), 375.

[7]William Bollaert, Antiquarian, Ethnological and Other Researches in New Granada, Equador, Peru and Chile (London: Trubner & Co., 1860), p. 76.

habitation in sight. Icy rivulets and mule trains are the only moving objects on this melancholy heath."[8] Having traversed the Arenal, only the gloomy páramo and the cheerless tambo of Chuquipogyio awaited the weary traveller. But the most arduous stretch of his journey was over.

The route along the Sierra took the traveller from the Páramo of Sanancajas to an intermont basin in which were situated the cities of Ambato and Latacunga. Extensive tracts of alfalfa near Ambato were used as fodder for the numerous mule trains. The Páramo of Tiopullo, which divided the basins of Ambato and Quito, was once a dangerous area for travellers:

> Esos sitios son famosos en los anales del crimen y no hay un matorral ni vereda que no estén llenos de recuerdos sangrientos y terribles.[9]

But the construction of the Carretera García Moreno banished this peril and made the entire highland part of the journey a relatively comfortable experience.

Vía Flores

There were several alternatives for the route from the River Babahoyo to Guaranda. A northerly trail through San Antonio was used by William Bennet Stevenson in 1808[10] and by Julio Castro in 1861; the latter believed that with the

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[8]James Orton, The Andes and the Amazon (New York: Harper & Brothers, 1870), p. 51.

[9]Castro, "Páginas de una cartera de viaje," p. 211.

[10]Stevenson, Narrative of Twenty Years Residence, II, 257-58.

new bridge over the River Pita this was destined to become the preferred route as it was shorter and had few ravines.[11] Other very old paths led along the valley of the River Chima[12] or the valley of the River Limón.[13] But the most footworn and oldest passed through Balsapamba and San Miguel to Guaranda.[14] The road to be known as the Vía Flores followed the general direction of this last route.

A law of 1861 had authorized the executive to arrange contracts for railroads or cart roads from Babahoyo or another point on the coast to the capital. Under García Moreno a railway to Quito was started well to the south of Babahoyo, from Yaguachi towards Chimbo. But the road from Babahoyo to the Carretera del Sur was not completely ignored. In 1871 an engineer was commissioned to survey the route and work was carried out from 1873 to 1875, mainly on the section between Guaranda and Balsapamba.[15] A few years later a new way was reconnoitred from Babahoyo to Balsapamba along the River Cristal by Mariano Barona. James H. Wilson was instructed in 1876 to examine this proposed route and on his recommendation the government ordered work to begin.[16]

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[11]Castro, "Páginas de una cartera de viaje," p. 197.

[12]Angel Polibio Chaves, Monografía del Cantón de San Miguel de Bolívar (Quito: Imprenta del Clero, 1897), p. 6.

[13]Wolf, Geografía, p. 214.

[14]Ibid.

[15]J. Mora López, Historia del Ferrocarril Trasandino (Quito: n.p., 1908), p. 18.

[16]Mariano Barona, Babahoyo (Guayaquil: Imp. de Calvo i Ca., 1876).

Wilson was also responsible for building a new bridge over the River Babahoyo; unfortunately, an iron replacement ordered some years later did not fit and had to be used elsewhere.[17]

The trail was not to remain in good repair for long. "A discredit to a barbaric country," was the blunt description by the North American George Earl Church in 1881.[18] At the same time Edward Whymper, the English mountaineer, scathingly commented on this camino real:

> Although republican Ecuadorians have done much levelling, and amongst other things have abolished titles of nobility, they have omitted to level their roads, and cling with curious tenacity to the pompous title of this primitive track. In the matter of mud it did not come up to expectations. It was not so pre-eminently filthy as to be entitled to precedence over all other roads in this country; though it certainly was, in some parts, what Ecuadorians call 'savoury.'[19]

Although in the administration of Jose María Caamaño (1883-1888) congress decreed sums of money for work on the route, it was not until the presidency of Antonio Flores (1888-1892) that real progress was made. Flores was dubious about the wisdom of continuing the railroad at the expense of national roads. Explaining his policy, he said:

> Reparar, pues, lo existente, esto es, la carretera y el camino del Arenal á Playas, obras ambas del ilustre García Moreno y que bastarían para

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[17]Manuel E. Quintana M., and Luis A. Palacios O., Monografía y álbum de Los Ríos (Guayaquil: Reed & Reed, 1937), p. 130.

[18]U.S., Ecuador in 1881, p. 50.

[19]Whymper, Travels, p. 8.

inmortalizarle, fué mi primera preocupación.[20] Modesto López surveyed the area and suggested that the main road should avoid the Arenal, and proceed by Angacajas to the national highway.[21] Gualberto Pérez and Lino M. Flor directed the work.[22] In 1891 the Vía Flores was inaugurated, named after President Flores as a tribute to his keen promotion of the road.

Although this long difficult route required constant maintenance, enthusiasm for the Ferrocarril del Sur soon distracted attention and diverted finances, and the Minister of Public Works in 1898 was to complain: "Este camino, el principal y el más antiguo y traficado, ha costado mucho dinero a la Nación, y cada día se halla en peor estado."[23] By 1903 the Ferrocarril del Sur had climbed the mountains to Guamote and was taking traffic from the Vía Flores. No doubt partly in response to political pressures from those who were losing by the new rail route, in 1904 a junta was set up in Babahoyo to direct repairs on the Vía Flores, and in 1906 some work was carried out.[24]

There were also those in the Province of Los Ríos who succumbed to railroad fever and pressed for a line from

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[20]Mora López, Ferrocarril Trasandino, p. 18.

[21]M.L., Los ferrocarriles, p. 11.

[22]Documentos referentes a la inspección del camino de Babahoyo al interior (Guayaquil: Imprenta de "El Globo," 1890).

[23]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1898), p. xxxi.

[24]Ecuador, Informe del Ministro de lo Interior (Quito, 1906), p. xxii.

Babahoyo to the Sierra.[25] Early ad-referendum contracts came to nothing: in 1898 the Sindicato Industrial de Sud América offered to build "una tranvía eléctrica o á vapor" between Babahoyo and Balsapamba, using the Vía Flores wherever necessary as a railbed;[26] in 1909 Julio H. Cardon made a similar proposal for an electric line.[27] Three years later the Municipality of Babahoyo was empowered to sign a contract for a railroad using the funds of the Vía Flores. Of several proposals, one by Paul Thur de Koos was accepted, and work began on the "Ferrocarril de Los Ríos" according to plans drawn up by Gustave Thoret and H.B. Watters. Koos' associate, the North American Alfred Maurry, took over the contract the next year, but surrendered it to Manuel Navarro within a few months.

Under Navarro work on the roadbed and bridges progressed steadily, and in 1917 the government acquiesced to build a branch of the Ferrocarril del Sur from San Juan to Guaranda to join with the Babahoyo-Guaranda railroad. But with a world war in progress rails and rolling stock could not be purchased and the funds, derived from customs revenues, diminished. Within a year it was decided that,

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[25]For detailed information on the contracts for this railway, see Colección de los contratos de ferrocarril, luz eléctrica, y grifos contra incendios celebrados con el I. Concejo Cantonal de Babahoyo (Guayaquil: Tip. de Julio T. Foyain, 1919), and J. Augusto Murgueytio D., "Ferrocarril de Los Ríos: Babahoyo-Guaranda," Nariz del Diablo, VII, No. 20 (1965), 40-64.

[26]Ecuador, Colección de leyes, 1898, p. 56.

[27]Ecuador, Informe del Ministro de lo Interior (Quito, 1909), p. xxxii.

without abandoning the idea of a railroad, the Babahoyo route should be made into a good road by widening and surfacing the railbed with sand or macadam.[28] Since neither the Municipality nor the contractor undertook the responsibility of conservation of the road, however, it soon fell into disrepair. In 1919 the railroad contract was taken over by Navarro's brother-in-law, Catón Cádenas, but was soon dissolved.[29]

In 1920 Congress agreed to make the Vía Flores into an automobile road to be called "Carretera Bolívar," and two years later a junta contracted the Austrian engineer Julio Rosenstock to draw up a new survey. Rosenstock traced a new route to avoid the notoriously precipitous and winding section called "El Torneado."[30] The River Chanchán railway disaster of 1925 emphasized the need to improve the Vía Flores as an alternate route between the Coast and the Sierra, and after the Juliana Revolution of 1925, when funds were centralized, the work gained momentum.[31]

With some variations on the old route, the Vía Flores was prepared for automobile traffic by 1930; a government publication stated with pride:

El viaje se lo puede realizar cómodamente

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[28]Ibid., 1917-18, p. 192.

[29]Ibid., 1921, pp. Lxxvii-Lxxviii.

[30]"La provincia de Bolívar," Miscelánea, IV, No. 32 (1934), 65.

[31]Abraham Eraso, La Provincia de Bolívar en 1934 (Quito: Talleres Gráficos Nacionales, 1934), p. 173.

> a caballo, autobús o automóvil y por precios reducidos y en tiempos verdaderamente cortos.[32]

Nevertheless, traffic was still frequently suspended during the rainy season.[33]

In the first administration of Velasco Ibarra (1934-35) efforts were concentrated on replacing old bridges with new reinforced concrete ones, and directing the route from Guaranda to Ambato, crossing the Great Arenal once again. The road continued to receive sporadic attention,[34] but it was to lose its predominant role as the major road route for traffic between Guayaquil and the highlands. Once the Quito-Santo Domingo-Quevedo highway was constructed, traffic used this route to Guayaquil, and in 1970 the road via Pallatanga to Bucay promised to become a new "camino real."

With reference to the amount of money invested over the years in the road, it was said: "La Vía Flores debía estar pavimentada con piedras preciosas."[35] Perhaps the most ironical comment was made by Albert Franklin in 1943:

> The trail up over the pass at Guaranda is, like Babahoyo itself, untouched by the ages and Whymper's description fits as well today as it did in 1880.[36]

This was the route that had seen most traffic between the

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[32]Ecuador, La carretera Rumichaca-Babahoyo, p. 22.

[33]Córdova, Problema vial, p. 17.

[34]Boletín Mensual de Obras Públicas, No. 62 (1945-46), p. 88.

[35]Quintana and Palacios, Monografía y álbum de Los Ríos, p. 131.

[36]Franklin, Ecuador, p. 23.

Coast and the Sierra over several centuries.

Other road routes between Guayaquil and the Sierra

The railroad from Yaguachi reached Puente de Chimbo in 1879, but it was little used for the conveyance of goods for the highlands as but few animals could be procured at Chimbo.[37] From this point three routes led to the Sierra.[38] The one that followed the valley of Chimbo through San Miguel to Guaranda was known as the "Vía Kelly," named after the English railroad entrepreneur. Under contract to the Governor and Municipalities of Bolívar, in 1886 he had laid out this itinerary towards Guaranda although he continued his railbed towards Sibambe.[39] The road was well used until "manos criminales incendiaron el puente que había para comunicar las márgenes del Chimbo, y desde entonces el bosque ha invadido la trocha y todo se ha borrado."[40]

An older trail, referred to as "La Libertad," came from Milagro like the railroad and climbed from Chimbo to Alausí. In 1858, we are told, it had moderate traffic since it was "sin viento, ni helada; pero, por otra parte, es malísimo por su piso i lo quebrado i deleznable de su

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[37]Whymper, Travels, p. 391.

[38]Arturo González Pozo, Monografía de la Provincia de Bolívar (Quito: Talleres Gráficos Nacionales, 1929), p. 138.

[39]Victor Manuel Garcés, "Informe sobre los estudios de la variante del Chanchán," Nariz del Diablo, XI, No. 83 (1933), 47.

[40]Chaves, Cantón de San Miguel, p. 6.

terreno."[41] General Veintimilla improved this road for traffic leaving the railroad at Chimbo, but when the Ferrocarril del Sur reached Alausí there was little movement left on the road.[42]

A third route led from Chimbo through Pallatanga to Cajabamba. Villavicencio said of this road:

> Este camino presenta la ventaja de montar la cordillera en un punto en que esta se deprime tanto, que no hay ni vientos helados ni nieve, de modo que parece que la naturaleza ha formado esta depresion para indicar el sítio por donde debe correr el camino de Guayaquil á Quito.[43]

The road received an impetus when the railroad reached Chimbo, and was considered by some as the best route for the continuation of the line.[44] Instead it was to become a supporting road to help increase traffic for the railroad. In 1953 the possibilities of the Pallatanga route as a major artery were urged by Julio Muñoz who suggested the government should give it priority.[45] By 1970 its advantages were generally admitted and it was well on its way to becoming, as Villavicencio had predicted well over a century previously, "el camino predilecto para los viajes a la

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[41]Villavicencio, Geografía, p. 146.

[42]Ecuador, Informe del Ministro de lo Interior, 1892, Part II, p. 15.

[43]Villavicencio, Geografía, p. 144.

[44]Ecuador, Informe del Ministro de lo Interior, 1892, Part II, p. 16.

[45]Julio H. Muñóz, Geopolítica de la Provincia de Los Ríos y el estado ecuatoriano (Quito: Editorial "Fray Jodoco Ricke," 1953), p. 301.

capital."[46]

La Carretera García Moreno

The section of the camino real between Riobamba and Quito was probably always the most travelled road in the country. Connecting several intermont basins, the habitat of most Indians and Spaniards, it also led to the major routes to the Coast.

Once part of the famous Inca highway, it deteriorated drastically during colonial times, becoming merely a rough trail. It was not until the administration of García Moreno that plans were made to rehabilitate this road, a project which had become "una obra de sueño y hasta de amarga censura, cuando no de risa o irritación por lo irrealizable, al parecer, del proyecto que se miró desatentado."[47] Sebastian Wisse was recalled from France to carry out the surveys and on January 7, 1862 the formal opening of work on the road took place in the Arch of Santo Domingo in Quito, where a commemorative monument, erected later by the government of Antonio Flores, still stands.

The project was divided into sections and the provinces and cantons were encouraged to apply the trabajo subsidiario to this national highway.[48] Despite the refusal by some cantons, and the penurious state of the national

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[46]Villavicencio, Geografía, p. 153.

[47]Ceballos, Resumen de la historia del Ecuador, VI, 79.

[48]J.R.L., Historia del Ecuador, II, 477.

treasury,[49] García Moreno persevered and "la obra se hacía vertiginosamente."[50] During his second administration the road was completed to Sibambe, where it was supposed to meet the railroad from the coast. The cost had been only a little more than the money to be spent on the railroad in just the first two years of its construction.[51] From 1873 two diligences ran regularly along the route which in 1875 Congress decided should be named La Carretera García Moreno.[52]

Commendation of the work was widespread. A European traveller compared it favourably "with the best thoroughfares of France and Germany."[53] Although George Earl Church also found it deserved much praise, he felt that the great width (24 to 28 feet) appeared to be an error, since as he said, "I doubt if any part of it is used by five carts or carriages per day."[54] His criticism was echoed by Edward Whymper, who also observed that many sections were "paved with round, knobbly stones which are distressing alike to man and beast," and caused the traffic to pass along the

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[49]Ecuador, Exposición del Ministro del Interior (Quito, 1867), p. 29.

[50]Tobar Donoso, "El ingeniero Sebastian Wisse," p. 205.

[51]J.L.R., Historia del Ecuador, II, 481.

[52]Ibid., p. 478.

[53]H.J. Mozans, Along the Andes and Down the Amazon (New York: D. Appleton and Company, 1911), p. 93.

[54]U.S., Ecuador in 1881, p. 49.

ditches.[55] Nevertheless, as compared with any other trail in the country, this was truly a magnificent highway.

Over the next two decades governments let the road fall into disrepair. The Guayaquil and Quito Railway Company used the road as a railbed in many sections, and once the railroad had reached Quito in 1908 the road was almost ignored until interest in roadbuilding was revived some seventeen years later.[56] In 1925 a contract was signed with Tesalia Springs Company to repair and maintain the road to Riobamba.[57] From then on this route, the principal artery of traffic in the country, received more regular allocations and better maintenance.[58] It came to be known as the Carretera Panamericana del Sur.

By Rail

El Ferrocarril del Sur

Railroads had been under construction in South America since 1850, but the first official mention in Ecuador was in 1861 when Congress gave García Moreno permission to contract for four lines, including one from Babahoyo or another point on the coast to Quito. It was not until a decade later that plans were formulated for the first line from

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[55] Whymper, Travels, p. 90.

[56] El Ecuador Comercial, III, No. 23 (1925), 33.

[57] Ibid.

[58] Ecuador, La carretera Rumichaca-Babahoyo.

Yaguachi to Sibambe.[59]

Using workers from the completed national highway, García Moreno initiated work in Sibambe in 1872, and the following year in Yaguachi, a town accessible to small river steamers from Guayaquil. By 1874 the River Yaguachi had been dredged and a train service inaugurated to Milagro, and by the time García Moreno was assassinated a year later 28 miles of 3-feet gauge track had been laid.

Over the next four years the railroad struggled only as far as Chimbo in the foothills of the Andes. There it was to remain nearly twenty years, almost lost in the forest. Edward Whymper, on his way to Guayaquil in 1880, decided to take a train from Chimbo but found:

> The Railway was hidden away in jungle, and had to be discovered. There was no station or train; nor house or hut; nor person or means of procuring information.[60]

Eventually the train arrived bringing only three passengers and nothing else.

Mark Jameston Kelly, an English engineer, was appointed

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[59]Not surprisingly, the Ferrocarril del Sur has inspired more literature than any other aspect of transportation in Ecuador. For further information on the period covered in this dissertation, the reader is recommended to consult: Crespo Ordóñez, Historia del Ferrocarril del Sur; Eloy Alfaro, Historia del Ferrocarril del Sur (Quito: Editorial "Nariz del Diablo," 1933); in "The Guayaquil and Quito Railway, Ecuador," Eva Loewenfeld emphasizes the diplomatic implications; the magazine of the railway company, Nariz del Diablo, contains articles of historical interest. These sources are the basis for the following account of the history of the railway.

[60]Whymper, Travels, p. 389.

administrator of the line in 1883 and within two years he proposed extending it from Chimbo to Sibambe, in return for the right to exploit the line and the state salt monopoly for 12 years. Later he undertook to extend the line at the other end from Yaguachi to Durán, on the opposite bank of the River Guayas to Guayaquil. Kelly traced the route along the valley of the River Chimbo and built 23 miles of roadbed, but he only laid 7 more miles of rails before financial problems overtook him. The section from Yaguachi to Durán was in service by 1887. But while the line led only to Chimbo its operation was pointless. The receiver of the line told the tragic tale in 1892 in his letter of resignation:

> Nuestro ferrocarril apenas puede llamarse tal, Señor Ministro: tiene por principio la orilla opuesta á la ciudad de Guayaquil y va a terminar al pié de la cordillera, en un punto á donde no llega hoy en día la planta del viajero, mejor dicho, es un ferrocarril que no tiene principio ni fin. Parece una paradoja pero es la verdad.[61]

Ecuador was left with a white elephant of a railroad.

Congress and interested citizens constantly brought up the need to continue the railway, but as Ernest Malinowski, the builder of the Oroya line, said, it was "una obra gigantesca," a greater engineering challenge than the Peruvian line had been.[62] Just as there was bitter controversy among politicians over the approval of contracts,

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[61]Manuel Sarasti, Informe del Depositario del Ferrocarril del Sur (Guayaquil: Imprenta de la Nación, 1892), p. 4.

[62]El Cantón Yaguachi: páginas históricas (Quito: Tipografía Julio T. Foyain, 1920), p. 55.

so there was hot dispute among engineers over the route to be followed. Several contractors appeared but none brought tangible results. The most heated debate was aroused by the proposal of Count d'Oksza, a French entrepreneur whom many Ecuadorians believed was trying to defraud the country.[63]

The first great Liberal president, Eloy Alfaro, came to power in 1895 determined to conclude a contract that would carry the railroad through to Quito. An English engineer, Sigvald Muller, was commissioned to make a new survey of the route and in 1897 Archer Harman, a representative of a North American syndicate, arrived in Quito to negotiate a contract. This was approved by Congress on June 14, 1897.

The Guayaquil and Quito Railway Company was to construct a 3 feet 6 inches gauge railway to Quito, and to rehabilitate and change the gauge of the line from Durán to Chimbo within six years. The cost of the line was estimated at US$17,532,000 to be covered by issuing 6 per cent bonds and 7 per cent preferred stock. Income from the railroad was to be used to cover operating and maintenance expenses and the interest and amortization payments. These were, however, secured by a lien upon the customs revenues

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[63]See, for example, Vicente González Bazo, El contrato D'Oksza (Quito: Imprenta Católica, 1889); Camilo Ponce, El contrato D'Oksza ante el Consejo de Estado (Quito: Imprenta Católica, 1891); Refutación del folleto "El contrato D'Oksza ante el Consejo de Estado" (Quito: Imprenta del Gobierno, 1892); Refutación documentada de los cargos hechos al gobierno en el folleto "El contrato D'Oksza ante el Consejo de Estado" (Quito: Imprenta del Gobierno, 1892).

of the republic.[64]

Opposition to the project, which had been brewing all along, came to a head in 1898 when Congress issued a decree prohibiting the executive from carrying out the terms of the contract. Alfaro quickly adopted conciliatory tactics and by a supplementary contract arranged that the government be relieved of some of the more onerous conditions of the original contract while extending the time limit for construction to ten years. Other disagreements were to result in further modifications over the next ten years.

Alfaro had to fight for his railroad, but fortunately he encountered in Archer Harman an equally dauntless and resolute ally. While Alfaro had to contend with personal antagonisms, political feuds, and internal disorders, Harman had to restore the country's credit and to persuade his stockholders, mainly English, not to abandon the scheme. As Alfaro himself wrote to Harman, "Empresa más combatida que nuestro Ferrocarril no lo ha habido en el Continente de Colón."[65] It was unfortunate that the president, in his anxiety to see his dream realized, made excessively generous concessions to the company which proved prejudicial to the interests of the nation.

Construction under Major John Harman finally began in

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[64]Eduardo Riofrío Villagómez provides a detailed analysis of the financial arrangements, and concludes that the country was defrauded in "Estudio sobre el Ferrocarril Guayaquil-Quito," Boletín Mensual de Obras Públicas, No. 62 (1945-46), pp. 155-185.

[65]Alfaro, Ferrocarril Trasandino, p. 10.

1899. The Durán-Chimbo track was overhauled and track was laid along several miles of the valley of the River Chimbo, but heavy rainfall in the winter of 1900 caused landslides and washouts, destroying all of the work in the valley. An alternative route had to be found. On advice from Colonel William Shunk and other engineers, the company turned to the gorge of the Chanchán. A new contract permitted gradients up to 5½ per cent and work began anew.

Many further challenges confronted the company. All equipment had to be imported and transported by mule trains to the head of the line. Frequently torrential rains washed away work and caused landslides which buried track and sometimes men as well. Many of the Negroes who had been brought to work on the railroad deserted to wander the country or work on plantations, so a decree had to be issued ordering them to return. Although sanitation and vaccination measures were enforced, the climate of the valley bred fevers which took a toll of the lives of workers and also killed John Harman in 1907.

From Bucay the line climbed almost 10,000 feet in only 50 miles. The highest station was Urbina at 11,841 feet above sea level. Following the gorge of the Chanchán, the line crossed the river no less than 26 times, and the mountain section alone required 75 steel bridges. The greatest engineering triumphs were the Alausí Loop and the Devil's Nose double zigzag.

The line reached Guamote in 1903, but when the 10-year

time limit expired in 1907 the rails had been laid only to a place 70 miles south of Quito. This was the cause of great discontent within the country. Conscious of the political and financial pressures to complete the project, the company resorted to many improvisations on the line, but complete it they did.

On June 25, 1908, great celebrations were held to mark the arrival of the first locomotive. The unbelievable had happened for quiteños--the railroad had arrived! The sense of national jubilation was conveyed by that day's editorial of El Comercio:

> El ensueño de medio siglo, las esperanzas que durante tantos anos acariciáramos en el anhelo de ver libre y próspera la nación ecuatoriana, hasta ayer aislada de las grandes palpitaciones del vivir moderno, son ya una realidad.[66]

Comparing the rail mileage of the American nations, before 1908 only Honduras had less than Ecuador.[67] Now Ecuador could assume a much higher rank.

Once the festivities were over, the friction between the government and the company recurred. The government complained that the road was in poor condition requiring more ballast and a full number of sleepers in many sections, and iron bridges to replace some cheaper wooden ones that the company had erected to save expenses. Rolling stock was inadequate for the traffic, and passenger coaches were

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[66]As quoted in Nariz del Diablo, 1958, p. 20.

[67]Francisco Andrade Marín, Los ferrocarriles del estado ante los de la América en general (Quito: Tip. de la Escuela de Artes y Oficios, 1908), p. 8.

in a "wretched condition," making the journey a most uncomfortable experience.[68] A contract amendment of 1904 obliged the company to repair any damage done to roads but the company had failed to do so. Failure to observe another contract modification, by which the company had agreed to take the main line through Riobamba, had helped to spark a revolution in 1906. Sentiment against the Yankee capitalists became intense, as this axcerpt from a newsletter shows:

> La "Guayaquil and Quito"--la gran boa--nos está ahogando entre sus férreos anillos. El contrato ferroviario ha sido generador de grandes desventuras para la Nación; la obra de civilización se ha convertido en obra de destrucción.[69]

Compare that vituperation with the passage from the editorial of El Comercio on the inauguration day as quoted above.

The company in turn made charges against the government, insisting that it had carried out its obligations, and claiming that the government inspectors, Páez and Navarro, were unqualified young engineers. According to the company, its expenses were so high it could not afford to pay the interest on the bonds.

There was no doubt some truth in the accusations made by the government. The railroad had cost more than

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[68]Council of the Corporation of Foreign Bondholders, Thirty-fifth Annual Report, 1908, p. 164.

[69]El Ferrocarril del Sur y los derechos del Ecuador (Quito: Talleres de "El Comercio," 1916), p. 4.

anticipated[70] and the company was always short of money and cutting corners in its expenses. Hans Meyer tells of a comment made to him by one of the company's engineers; in response to Meyer's observation that the rails did not seem soundly laid, the official is quoted as saying:

> Lo esencial es que nosotros lleguemos a Quito con la locomotora en tal fecha; después el Estado tomará el ferrocarril por su cuenta, o nos dará en arrendamiento su explotación con una garantía del Estado, y entonces podrán ser reparados, a costa del Gobierno, los defectos y malas condiciones de la construcción.[71]

The vice-president of the railroad, under attack himself for illegal procedures, accused Alfaro of underhand business methods and of cheating the railroad of profits.[72] Harman and his associates were making big profits by organizing subsidiary companies to filch the railway's profits, and by incorrectly labelling construction expenditures as operating costs which the government would have to subsidize.[73]

The railroad suffered not only from these disagreements but also the loss of its two great promoters. In Virginia, in 1910, Archer Harman was thrown from his horse and killed. Just over one year later Eloy Alfaro travelled

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[70]Accounts differ on the final cost of the railroad. Mozans, Along the Andes, p. 57, gives a total of $19,000,000, averaging $73,000 a mile.

[71]Hans Meyer, En los altos Andes del Ecuador, trans. by Jonas Guerrero (Quito: Imp. de la Universidad Central, 1940), p. 68.

[72]F.B. Stewart, Manejos de Mr. Harman (Quito: Imprenta de "La Prensa," 1910).

[73]Ibid.

on the railroad, for which he had fought so hard, to his death at the hands of a mob.

Despite the feud between the government and the company, the advantages of the railroad were already becoming apparent. The national income was rising quickly, commerce was increasing, and produce from the highlands was replacing imported foodstuffs in Guayaquil.[74] The cities through which the railroad passed were observed to be showing signs of industrial and commercial progress. But the Ferrocarril del Sur did not prove to be a simple key to the riches of the country, as some had supposed. Rates were high enough to encourage the continuation of considerable freight traffic by mule train over the Vía Flores.[75] Imported fuel was very expensive, and the railroad company did not show a real profit for a long time; nor did it pay the interest on the bonds.

Since efforts at settlement of the dispute between the government and the company were constantly stalled, the United States State Department intervened to bring diplomatic pressure to bear on the Ecuadorian government.[76] It

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[74]Council of the Corporation of Foreign Bondholders, Thirty-fifth Annual Report, 1908, p. 162.

[75]Ibid., p. 165.

[76]With the Panama Canal under construction, the interest of the United States in Ecuador was heightened by the possibility of a lease on the Galápagos Islands, and the desire to eradicate the menace to the Canal Zone of epidemic diseases in West Coast ports, such as Guayaquil. Harman was involved in complicated negotiations on these matters between the government of Ecuador and the United States State Department. Ecuador considered applying part

successfully blocked Ecuador's efforts to secure loans abroad, and imposed sanctions on the cacao trade to the United States for some months. The wrangling continued until 1925 when the first major Chanchán disaster occurred as a result of heavy rains. The government refused a request by the company for authorization of a 25 per cent increase in tariff rates to cover the expense of repairs, and finally purchased the majority of the stock of the company to gain control of the railroad. This move was criticised by some who felt the government had only burdened itself with further financial obligations.[77]

Serious attempts were made to improve the service and income of the railway while Manual Navarro was its president. Experts from the North American firm of Coverdale & Colpitts came to assess the situation and give advice. Tariff rates were raised to finance the purchase of new equipment and repairs to the line. All wood-burning locomotives were converted to burn oil, and a direct service between Durán and Quito was substituted for the previous two-day journey with a stop-over in Riobamba.[78]

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of the money that she would receive from leasing the islands to the building of more railroads, and Harman intended to be the builder; see Walter V. Scholes and Marie Scholes, "The United States and Ecuador, 1909-1913," The Americas, XIX, No. 3 (1963), 276-290; and Lois F. Parks and Gustave A. Nuermberger, "The Sanitation of Guayaquil," Hispanic American Historical Review, XXIII, No. 2 (1943), 197-221.

[77]El Ecuador Comercial, III, No. 22 (1925), 55.

[78]Not until 1938 was a daily direct service initiated; it only lasted a few years before the thrice-weekly run was resumed.

In 1927 the statistics finally showed a definite trend of income over expenditure with approximately 80 per cent of the revenue from freight traffic. As Ecuador recovered from the world depression, the movement of both freight and passengers began a sharp and steady increase until 1944 when the line was fully nationalized. But operation costs were also mounting rapidly and from 1948 on the balance sheet showed an annual loss, which rose to alarming proportions in 1954.[79]

Frequent disruption of the service on account of landslides or washouts, insufficient investment in maintenance and equipment, heavy government taxation, unequal competition from road transportation, too large a payroll and changing management: all these factors played some part in the downfall of the nation's only completed railway.[80] In fact, despite its glowing promise, the railroad had never really gotten well underway. The contract with the Guayaquil and Quito Railway Company had stipulated "a first-class railway," without defining what this meant; but it is sure that the company did not hand over the railway in first-class condition. The Ferrocarril del Sur played an undeniably important role in the history of Ecuador's transportation, but not as brilliant a one as anticipated in 1908.

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[79]Nariz del Diablo, 1958, p. 79.

[80]Ecuador, Informe del Ministro de Obras Públicas, 1949-50, pp. 123-148.

El Ferrocarril a La Costa

Since the port of Guayaquil was frequently under quarantine to international shipping lines and the city could not be approached by deep-draught vessels, Archer Harman conceived the idea of augmenting the income of the Ferrocarril del Sur by extending the line to a point on the coastline.[81] Political and financial considerations did not permit him to proceed, and when the plan was revived its principal goal was to provide an inexpensive route for guayaquileños to the beach, away from the summer epidemics of the city.[82]

Between Guayaquil and the western shore lay the Santa Elena Peninsula, an arid, thinly populated area, though with fine beaches, open air salt pits, and petroleum along the coastline. In 1909 the city of Guayaquil requested the reimposition of a tobacco tax to finance the "Ferrocarril a La Costa." Work began under a junta in 1913 on the railbed for a 4 feet 8½ inches gauge line towards Playas but proceeded "a paso de tortuga."[83] Although in the early 1920s there was talk of substituting a road for the rail-

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[81] J. Augusto Murgueytio D., reproduces documents for the history of this railway in "El Ferrocarril Guayaquil-Salinas," Quito, 1966. (Typescript. Later published in Nariz del Diablo, VIII, No. 34 [1966]).

[82] Ricardo González-Rubio, El Ferrocarril a La Costa (Guayaquil: Imp. La Reforma, 1921), p. 8.

[83] T. Vivar Cueva, "El comercio ecuatoriano en cien años de vida autónoma, El Ecuador Comercial, VIII, No. 83 (1930), 51.

road,[84] work on the line continued under government direction from 1925, but now in the direction of Salinas, with a branch line to Playas. Not until 1936 were all 95 miles of track laid to Salinas.

For some years the railway operated efficiently showing a small profit, although no allowance was made for depreciation and reinvestment of capital. Administrative inefficiency set in, however, under state control[85] and competition with the coastal road, especially in the summer, brought the railway to a state of financial exhaustion by the end of World War II. It survived only through a large subsidy given by the Ferrocarril del Sur.

This railroad had not been built in the first instance on sound commercial grounds. The petroleum and salt for the Sierra could be transported more cheaply by water.[86] The line crossed a very sparsely populated area, and suffered seasonal fluctuations in its traffic to the beach resorts.[87] The only justification for its existence could be as the terminal of a national railway network with the construction of first-class port facilities at Salinas. This argument was set forth by Ricardo González-Rubio in 1921, by Manuel Navarro some ten years later, and by

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[84]González-Rubio, Ferrocarril a La Costa, pp. 12-18.

[85]Murgueytio, "Ferrocarril Guayaquil-Salinas," pp. 6-7.

[86]Ecuador, Informe del Ministro de Obras Públicas, 1951-52, pp. 198-99.

[87]Ibid., 1950-51, p. 137.

General Ricardo Astudillo as President of the Empresa de Ferrocarriles del Estado in 1948.[88] The track would require rehabilitation and narrowing to the 3 feet 6 inches gauge of the other railways. As was the case with so many railroad rehabilitation projects, this proposal was not adopted and later plans were made to built a new port on the Estero Salado nearer Guayaquil.

Competition from the road intensified; the road to Salinas was one of the first in the country to be paved with asphalt.[89] In 1953 operation of the railway was finally suspended and the whole enterprise was handed over to the Junta de Mejoras y Obras Públicas de la Península de Santa Elena to see if this body could revive the line within a year. The Junta had to admit defeat and in 1954 it resolved to take up the rails.

The Ferrocarril a La Costa epitomizes in many respects the story of transportation development in Ecuador. Regional interests were allowed to foster a railway project that was basically uneconomical, and although the warning bell of highway competition was sounded before the rails were even laid, it was ignored. Completely unrealistic financial assignments dragged out construction over many years under changing administrations. In its 40 years the

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[88]González-Rubio, Ferrocarril a La Costa; Ricardo Astudillo, Proyecto para construir el puerto de Salinas y constituirlo como terminal de la red ferroviaria ecuatoriana (Quito: Empresa de Ferrocarriles del Estado, 1948).

[89]Ecuador, Informe del Ministro de Obras Públicas, 1950-51, p. 137.

line was for a longer period of time under construction than in operation. Plans for rehabilitation and a new port were shelved as they threatened certain vested interests; nevertheless, it was only political considerations, a fear of antagonizing other interest groups, that kept the line alive, operating at a loss, until 1953.

CHAPTER IX

QUITO TO ESMERALDAS

The northern highland provinces of Pichincha and Imbabura (the latter to be divided into Imbabura and Carchi in 1860) aspired to access to a Pacific port other than by the long, arduous route to Guayaquil. To the west lay the Province of Esmeraldas, a potentially rich agricultural region but still uncolonized except for a few, mainly Negro, towns on the coastline and some Indian settlements along the rivers. During colonial times the region had been allowed to remain outside the Spanish domain to discourage foreign incursions, to deter contraband trade, and to comply with the interests of the Guayaquil merchants. In the republic it became important to integrate the province into the national life, and communication routes were seen as essential to the maintenance of public order and the promotion of economic development. Above all, the province could provide an outlet to the ocean for the northern highland basins.

Roadbuilding Projects in the Nineteenth Century

Interest in a road to a port in Esmeraldas had been keen in colonial days and did not slacken during the period of the Gran Colombian union. A decree signed by Simón Bolívar on June 25, 1822, just one month after Quito had

gained its independence, called for special and immediate attention to the opening of the Esmeraldas road, establishing a free port for 10 years and exempting settlers along the route from taxation. The Liberator confirmed his concern in a letter from Guayaquil one month later, bidding the Intendant General of Quito to take great care and interest in the project.[1]

Although General Juan Illingworth wrote to Marshall Sucre advising him to abandon the route in favour of a road to Bahía or Manta,[2] public fervour for the Esmeraldas route did not abate. Martín Chiriboga, a wealthy quiteño, proceeded to restore the trail that Maldonado had built in the previous century, but soon after completion his work was reported as impassable on account of fresh undergrowth and landslides. At this juncture, the Postmaster General, Colonel José Antonio Pontón, inspired by his interest in expediting the mail to Esmeraldas, explored the area to the west of Quito, and in 1824 stumbled on the old aboriginal trail through Cotocollao to Mindo and the Embarcadero, avoiding steep climbs and waterlogged areas. The journey to Mindo would now take only eight to nine hours, rather than three to four days by the Maldonado route.[3] His work

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[1]Junta Autónoma del Ferrocarril Quito-San Lorenzo, Informe al H. Congreso Nacional, 1952 (Quito: Editorial La Unión Católica, 1952), pp. 316-17.

[2]Boletín Mensual de Obras Públicas, V, Nos. 56-58 (1940), 98.

[3]Junta Autónoma del Ferrocarril Quito-San Lorenzo, Informe, 1952, pp. 246-49.

on this route received high praise from many who traversed it; however Colonel Francis Hall, called upon to report on the progress of Esmeraldas, spoke unfavourably on the route and opposed further work, claiming that it suited only the interests of a few large landowners and not of the entire nation.[4] In reply, Pontón accused Hall of never having traversed the route and said that his adverse report was "malicioso o más bien propio del órgano por el que respira Guayaquil."[5] The result of this dispute was that Pontón was never given the funds he required and so another route to Esmeraldas was lost. Enthusiasm did not wane, however, and a further decree was issued by the government of Gran Colombia on March 16, 1826, by which the executive was authorized to open a road, either by contract or under government administration. Nevertheless, no road was opened before Ecuador became a separate republic in 1830.

The story of the road to Esmeraldas in the early years of the republic recalled colonial episodes when regional interests had defeated efforts to promote the route. In 1834, an attempt to reopen the Malbucho road of colonial times was foiled by "el Comercio de Guayaquil, que se creyó así perjudicado en sus intereses."[6] Further efforts between 1834 and 1849 to build a road, erect tambos, and establish

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[4]Junta Directora del camino de Esmeraldas, Camino de Esmeraldas (Quito: Imprenta de Rivadeneira y Comp., 1847), p. 10.

[5]José Gabriel Navarro, "Caminos de Quito a Esmeraldas," p. 70.

[6]J.L.R., Historia del Ecuador, I, 594.

a port at San Lorenzo made little headway since each administration could not agree with its predecessor as to the value of the project. For instance, in 1846 a law regarding the road stated in its preamble that the work should be given every encouragement to overcome "las medidas que empleó la pasada administración para anular el puerto del Pailón, y estorbar los trabajos materiales del camino de Carondelet."[7] Just three years later this favourable attitude towards the Esmeraldas road was reversed and a Minister of the Interior said: "Todo lo que se proyecte a este respecto es irrealizable: no son sino delirios del patriotismo, utópias lisonjeras i perjudiciales."[8] In a similar mood, guayaquileños objected to the exemption from taxation for goods entering through the ports of Esmeraldas province.[9]

The internal disorders of the 1850s largely diverted national attention from constructive projects, but foreign interests focused on Esmeraldas. As early as 1837 the British Admiralty had sounded the channel of the Pailón and pronounced it suitable for shipping.[10] Some two-thirds of Ecuador's foreign trade passed by way of the Isthmus after

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[7]El Nacional (Quito, 1846), p. 26.

[8]Ecuador, Exposición del Ministro del Interior (Quito, 1849), p. 22.

[9]Roberto Andrade, Conferencia en la Sociedad Artística e Industrial del Pichincha, acerca del camino a Esmeraldas y las ventajas de la agricultura en aquella provincia (Quito: Imprenta Nacional, 1926), p. 3.

[10]S.H. Ayala, "Ferrocarril Quito-Ibarra-San Lorenzo," Boletín Mensual de Obras Públicas, VI, No. 60 (1943), 27.

the inauguration of the Panama railroad, which heightened international interest in the Pailón area since it was at only two days sailing distance from Panama as compared with four days to Guayaquil.[11] A French proposal for construction of a road in exchange for merely a small grant of land on each side of the road was declined by the government.[12] Nevertheless, in 1855 British creditors received Ecuadorean land warrants in part payment of the arrears of interest at the conversion of the foreign debt, and George S. Pritchett was sent to choose land. The Pailón area was one of the five districts he selected, and to justify his choice he stated:

> The Pailon possesses many advantages over Guayaquil as a port for the metropolis, inasmuch as it is at less than half the distance from the latter, and would not have the drawback which the Guayaquil road suffers, of being impassable for six months of the year.
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> That this point would rapidly rise into importance cannot be doubted, when the quantity of rich and fertile lands of the neighbourhood and interior is considered, the produce of which has to make the tedious journey round by Guayaquil, to be there shipped for the markets of Chocó and Panamá. It would serve also as the outlet for the beautiful provinces of New Granada, which at present have no port.[13]

A group under James S. Wilson, "the well-known Australian and Californian explorer," was sent to establish a

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[11] El camino del Pailón (Quito: Imprenta de los Sucesores de Bermeo, por J. Mora, 1889), p. 1.

[12] Pritchett, "Explorations in Ecuador," p. 69.

[13] Ibid., p. 70.

colony at Pailón.[14] In 1861 Wilson distributed shares to Ecuadoreans and contracted with the government of García Moreno to build a road to Quito. At this point, however, the government received word from the Ecuador Land Company that Wilson did not have the authority for such actions, and soon a Spaniard, Miguel Parys Moreno, arrived in the country saying that he was the new agent of the company. In 1865 Parys Moreno contracted for a road to San Lorenzo, but no road was built.[15]

When there was agreement on the value of the project of a road to Esmeraldas, there was often disagreement on the actual route to be followed. There were three possible starting points from the highlands. The most southerly route began south of Quito, either from Aloag or Chillogallo, to Santo Domingo de los Colorados and Quinindé, and down river to the town of Esmeraldas. The Maldonado route, also leading to Esmeraldas, wound around Volcán Pichincha and passed through Cotocollao and Nono to an embarkation point on the River Blanco, a tributary of the Esmeraldas. Colonel Pontón's variation of this route led through Mindo rather than Nono. The Malbucho route led from Ibarra along the Rivers Mira and Santiago to the northerly port of San Lorenzo in the Pailón zone.

García Moreno, in his second administration, favoured

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[14]Bollaert, Antiquarian, Ethnological and Other Researches, pp. 102-03.

[15]Roberto Andrade, Conferencia, p. 3.

a different route from Ibarra, which would lead through Intag to the town of Esmeraldas, and he opened 70-odd miles of road for traffic. This way avoided the possible damage that a volcanic eruption might cause with river flooding, but had to cross a mosquito-infested region. Since the Indians employed on its construction were decimated by fevers and money was short, work had to be suspended.[16]

Eventually the route through Santo Domingo de los Colorados to the port of Esmeraldas was to become the preferred route for a highway, and San Lorenzo was chosen as the destination of the railroad from Quito through Ibarra.

After an earthquake in 1868 had devastated the city of Ibarra and plunged the whole area into an economic depression, the northern provinces became more firmly convinced that the remedy for their economic ills was a road to the Pailón which would make San Lorenzo "uno de los más importantes [puertos] del Pacífico."[17] In his description of a fantasy trip by railroad from San Lorenzo to Ibarra, the engineer Bernard Flemming painted a scene of great industry and prosperity all along the route.[18] The government of José María Caamaño entertained the illusion that this road could help to raise the entire nation from "la postración

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[16]Ibid., p. 8.

[17]Villavicencio, Geografía, p. 152.

[18]Bernard Flemming, El ferrocarril del Pailón (un sueño) (Quito: Imprenta de los Sucesores de Bermeo, por J. Mora, 1889), pp. 1-2.

en que yace."[19] George Earl Church also believed in the potential of the route; although he found only a wild forest track in 1881, he suggested that "the efforts of a few energetic school boys or a nest or two of ants might turn it into a mule-path, which would probably result in as extensive a traffic as that of the Guayaquil-Quito mule road."[20]

Not all were so optimistic about the Esmeraldas project. On an expedition to the province, Theodore Wolf found not a single mule trail and only a few very rough footpaths,[21] and he held that ambitious road projects were pointless while the population in the region was so sparse.[22] Similarly, opposition to a railroad was attributed to the belief that:

> . . . una vez construido el camino, éste no tendrá ocupación por falta de artículos para exportar, y que el resultado sería la ruina del Gobierno y la pérdida del camino, porque indefectiblemente se convertirá en óxido de hierro.[23]

The lack of success to date made many wonder if the project would ever be completed. In the early 1890s Federico González Suárez, the great Ecuadorean churchman, historian,

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[19]Ecuador, Colección de leyes, 1884, p. 14.

[20]U.S., Ecuador in 1881, p. 51.

[21]Theodore Wolf, Viajes científicos por la República del Ecuador, Vol. III: Provincia de Esmeraldas (Guayaquil: Imprenta del Comercio, 1879), p. 6.

[22]Wolf, Geografía, p. 213.

[23]Unos Hijos del Carchi, El camino del Pailón (n.p.: Fundición de Tipos de Manuel Rivadeneira, 1885), p. 2.

and a president of a junta promoting the project, expressed the exasperation and impatience of the nation over the route to Esmeraldas when he said:

> El siglo décimo octavo terminó sin que los ecuatorianos lograron ver realizado su anhelo de poner en comunicación la provincia de Esmeraldas con las serraniegas ó del interior, por medio de un camino directo y cómodo: el siglo décimo nono comenzó con la misma aspiración; y ahora, cuando el siglo presente está ya á punto de terminar, no se halla todavía realizada esa aspiración: ¿se realizará algún día?[24]

Would he have believed that the dream would come true only after a further half century?

Despite discouraging antecedents, general enthusiasm for the route was not to be dampened. Work on a bridle path to the Pailón pressed ahead, first under contracts with Bernard Flemming and a Mr. Fletcher, and then under juntas which secured some financial assistance. Eloy Alfaro encouraged the project in his first administration, and in 1901 the Minister of the Interior was able to report optimistically that the Ibarra-Esmeraldas bridle path would be ready within the year.[25] But these forest trails were so temporary, and by now the attention of the northern provinces was firmly focused on a more permanent way to Esmeraldas--by railroad.

El Ferrocarril del Norte

The Congress of 1861 had suggested a railroad from the

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[24]González Suárez, Historia general, V, 466.

[25]Ecuador, Informe del Ministro de lo Interior, (Quito, 1901), p. xiv.

Pailón to Ibarra, but not until a quarter of a century later was a proposal accepted. By then the conviction of many was that "el progreso no anda en mulas ni careteras [sic] sinó sobre rieles;"[26] and some believed that for the benefit of the nation, the railroad to Esmeraldas should be promoted before all other rail routes.[27] Although it was said that the terms of the contract were too lenient, in 1885 two North American engineers, J.G.H. Finlay and Francis W. Wiswell, were contracted to build the "Ferrocarril del Pacífico" from San Lorenzo to Ibarra within six years.[28] After surveys, a trail was opened and Bernard Flemming, designated by the government to inspect the work, reported favourably dependent on the replacement of one bridge.[29] Later Wiswell signed another contract on the same terms but no rails were laid.[30]

The railroad continued to be the "único y más serio pensamiento"[31] of the northern provinces, and it was much discussed and written about. Some favoured a narrow-gauge line rather than a standard gauge;[32] some preferred a

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[26]Unos Hijos del Carchi, El camino del Pailón, p. 3.

[27]Ibid., p. 2.

[28]El Ferrocarril del Pacífico (Quito), August 4, 1886, p. 1.

[29]Ecuador, Informe del Ministro del Interior (Quito, 1887), p. 29.

[30]Ecuador, Colección de leyes, 1887, p. 52.

[31]Tomás Rodil, Ferrocarril del Norte (Quito: Imprenta del Clero, 1894), p. 1.

[32]Ibid.

contract with foreigners in exchange for public lands,[33] others a national enterprise.

Local entrepreneurs, of the opinion that the national government was neglecting the northern region,[34] decided to try their hand at the project. In 1889 a company was formed with the idea of building a road to pave the way for a railroad; shares were issued and circulars distributed to encourage citizens to invest.[35] A similar venture, La Sociedad Anónima del Pailón, was attempted five years later, but the harsh terms demanded by the Cordero government doomed it to failure.[36]

Hitherto, railroad proposals had indicated that work would begin at a port in the Province of Esmeraldas and lead inland towards Ibarra. However, the Intercontinental Railway Commission of 1890-91 surveyed a line north to south, and at the end of the first administration of President Alfaro, work was inaugurated with great pomp and ceremony on a railbed from Quito to Ibarra, in accordance with a contract with Archer Harman to continue the Guayaquil-Quito line.[37] The two great promoters of the Ferrocarril del Sur were not to see success with the Ferrocarril del

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[33]Los Hijos del Pichincha, Brillante porvenir para el Ecuador (Quito: Imprenta del Clero, 1893), p. 1.

[34]Unus pro Multis, Compatriotas del norte (Quito: Imprenta de los Sucesores de Bermeo, por J. Mora, 1889), p.1.

[35]Modesto A. Peñaherrera, Camino del Pailón: circular (Quito: n.p., 1889).

[36]Imbabura (Otavalo), II, Nos. 3-4 (1928), unnumbered pages.

[37]Nariz del Diablo, 1958, p. 225.

Norte. Harry Franck narrates an anecdote showing that Harman was discouraged about building the line as far as Colombia on learning that the route would mean about 70 miles of 6 per cent grade in shale.[38] At all events, beset by many problems with the Ferrocarril del Sur, Harman did not pursue the northern project.

Meanwhile the government of Lizardo García had in 1905 approved a contract with Baron Baudouin Van Dedem on behalf of a French-Ecuadorean syndicate to build a line from the Esmeraldas coast towards Ibarra. The representative of the company, Frederick Steffan, was only waiting to see the result of the Harman contract before proposing to continue the railway from Ibarra to Quito.[39] The cost of the line would be fixed by an engineering commission and the government would provide public lands for colonization and guarantee interest payments up to 5½ per cent once the line was completed. As Steffan told the Ecuadorean legislators, this contract indicated that European investors had faith that the railway would prove a good investment and produce well over 5½ per cent, since they could find projects offering up to 7½ per cent interest easily enough in Europe.[40] Negotiations over the contract were lengthy, but the work never got underway.

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[38]Harry A. Franck, Vagabonding down the Andes (New York: The Century Co., 1917), p. 123.

[39]J.F. Steffan, El Ferrocarril Norte Occidental del Ecuador (Quito: Imprenta de "El Comercio," 1906), pp. i-ii.

[40]Ibid., pp. i-ix.

The northern provinces demanded their railroad. Under the guidance of Modesto Peñaherrera, a native of Imbabura and Minister of the Interior under President Plaza Gutiérrez, a patriotic junta was set up in Quito. A decree was issued for the construction of a line but unfortunately compliance was impossible as the Province of Esmeraldas was in the throes of revolutionary activity and the funds for the projected railroad were spent on restoring public order.[41] The junta continued to assert constant pressure on the government, and in 1915 an autonomous junta under Modesto Peñaherrera took over the decentralized income for the project.[42] A decree was issued for preferably an electric line to be started in Quito towards Ibarra, and then on to Esmeraldas.

Now that the likelihood of actual construction of a line was growing, a specific route had to be selected. Two commissions of engineers were engaged to study possible routes between Quito and Ibarra.[43] After a year of surveying, the group under W.C. Simmons chose an easterly line through Tumbaco, but the other commission, headed by Karl Reintelen, opted for the railroad to head westward through Cotocollao. In the light of this disagreement, a third commission was nominated. It was at this point that R.C.

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[41]Ecuador, Informe del Ministro de lo Interior (Quito, 1916), p. Lxxiii.

[42]J. Augusto Murgueytio D., "El Ferrocarril Quito-San Lorenzo," Nariz del Diablo, VIII, No. 33 (1966), 91.

[43]Ecuador, Informe del Ministro de lo Interior (Quito, 1916), pp. Lxxv-Lxxvii.

Wulckow, the engineering representative of the Berlin company of Orenstein & Koppel-Arthur Koppel, appeared on the scene and demanded to be included by right of a contract that his company had drawn up with the government in 1914. The autonomous junta had been considering a proposal by another company, but to avoid lengthy litigation it agreed to Wulckow's request.[44] This final commission favoured the eastern route via Tumbaco, which had also been the course selected by the Intercontinental Railway Commission and by Archer Harman.[45]

The choice of route was still hotly disputed by the people of Ibarra, who preferred yet another plan that had been drawn up by a local engineer, Rafael Dávilla,[46] and by the city of Cayambe which had been bypassed. Nevertheless, work on the railbed was started in Quito, and soon the people of the north responded wholeheartedly to the project. In 1917 a solemn oath was taken by many of the people of Imbabura to complete the work "a través de todo obstáculo y que, si fuere menester, fertilizar el suelo de Imbabura con nuestra sangre, para que sobre ella se extiendan las cintas de acero del sublime monstruo, estemos

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[44]Junta del Ferrocarril de Quito a Esmeraldas, Exposición de la Junta del Ferrocarril de Quito a Esmeraldas (Quito: Imprenta y Encuadernación Nacionales, 1916), p. 14.

[45]Proyecto del Ferrocarril de Quito a Esmeraldas. Sección de Quito a Ibarra: memoria descriptiva y presupuestos (Quito: Imprenta y Encuadernación Nacionales, 1918), p. 5.

[46]Patriotas, Imbabura y el ferrocarril (Ibarra: Tip. "El Comercio," 1916).

listos a este sacrificio, en aras de nuestro propio engrandecimiento y prosperidad."[47] Mingas of several thousands of workers from Carchi, Imbabura, and Pichincha carried the railbed over many miles, and the military lent detachments of soldiers to assist in the project.[48]

Work on the section from the capital to Ibarra was finally proceeding satisfacorily, but it soon became a matter of concern in the northern provinces that the line would never be extended beyond Ibarra.[49] Consequently, the government was pressed to get under way studies on the route between the coast and Ibarra, and in 1918 Eugene Schvingt carried out extensive surveys of the Esmeraldas coastline, confirming San Lorenzo as the best port and termination for the railroad.[50] In 1919 it was contended that the complete railbed to San Lorenzo should be prepared before the funds were spent on laying rails on the section from Quito to Ibarra.[51] The cost of the rails would be so much greater by having to transport them by the Ferrocarril del Sur from

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[47]Imbabura, II, Nos. 3-4 (1928), unnumbered pages.

[48]Ibid.

[49]Victor M. Palacios M., El ayuntamiento de Ibarra y sus gestiones en pro del ferrocarril septentrional (Quito: Imprenta L.I. Fernández, 1929), p. 18.

[50]Eugenio Schvingt, "Informe sobre el puerto por construir: San Lorenzo," Boletín Mensual de Obras Públicas, I, Nos. 3-4 (1936), 27-29.

[51]Ernesto Franco, Exposición que el vocal representante de la municipalidad de Esmeraldas en la Junta del Ferrocarril de Esmeraldas a Quito presenta a sus comitentes y a la nación (Quito: Tipografía de la Escuela de Artes y Oficios, 1919), pp. 11-12.

Guayaquil to Quito. Possibly the interests of certain large landowners along the route between the capital and Ibarra won out, as it was decided to lay the rails first.[52]

The contract with Orenstein & Koppel lapsed in 1920 when the work was taken over by the Junta Central Directiva del Ferrocarril de Quito a Esmeraldas. Active construction on the railroad was slowed by insufficient funds.[53] One northerner claimed:

> El Presidente guayaquileño no impulsa el ferrocarril del Norte, porque se oponen los capitalistas guayaquileños que dirigen la situación económica del país.[54]

The railbed was finally completed between Quito and Ibarra, but one contract with The Foundation Company in 1924 to lay the track failed,[55] and another with Dobbie and Simmons in the following year was quickly cancelled by military officers in the ruling junta of 1925.[56] The project came under the Ministry of Public Works, and after four more years, on July 17, 1929, the first locomotive covered the 107 miles between Quito and Ibarra. The excitement of the Province

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[52]It was rumoured that the selection of route was also determined by local interest groups (Murgueytio, "Memorandum," p. 22).

[53]Palacios, Ayuntamiento de Ibarra, p. 9.

[54]Del Hierro, Monografía del Carchi, p. 50.

[55]Contrato para la construcción del Ferrocarril Quito-Esmeraldas celebrado entre el Supremo Gobierno del Ecuador y los Sres. J.C. Dobbie y W.C. Simmons (Quito: Imprenta Nacional, 1925), p. 2.

[56]El Ecuador Comercial, III, No. 28 (1925), 82.

of Imbabura can well be imagined,[57] but the line still had some 125 miles to go to reach San Lorenzo and really fulfill the aspirations of the northern provinces.

For 10 years trains ran only three times a week, and operation of the line was at a deficit.[58] Service on the route was not impresive. An amusing account of a rail journey to Otavalo by K.G. Frubb seems worth repeating:

> The train in motion was a rare sight, and far more remarkable than the train at rest. It possessed no such refinements as vacuum brakes. Each car had a hand-brake operated by a wheel on the top of the roof. At the required moment the engine-driver gave a wink or wound up his watch, and a serf threw himself violently on the wheel. When the slope was steep, and the distance miscalculated, he siezed a balk of timber and used it as a lever, bringing us up with a series of infernal crashes, creaks, and groans like a torture-chamber of the Inquisition. How many persons were required to work the train it was difficult to calculate, but four were destined to the exclusive attention of the engine alone. We were constantly stopping, or perhaps constantly in motion. Sometimes we stopped in the middle of a climb to get up more steam; sometimes, apparently, to put it down again; sometimes to pick up workmen; sometimes to converse with a solitary horseman who had an acquaintance among the more influential passengers. The stoppages to effect repairs to the engine were the most interesting. These took place about every 7 miles. The enginemen would drop off their rocking-horse and crawl under her, armed to the teeth with spanners, hammers, pins, seccotine, string, and other implements of their trade -- not omitting oaths and Indian boys. After they had, so to speak, put Humpty-Dumpty temporarily back on his wall, they would proceed in pride and peace for another stage. In addition,

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[57]José M. Leoro, S., Ibarra, ayer y hoy (Quito: Tip. Editorial Chimborazo, 1929), unnumbered pages.

[58]Junta Administrativa del Ferrocarril Quito-San Lorenzo, Informe presentado al H. Congreso Nacional, 1941 (Quito: Imprenta del Ministerio del Gobierno, 1941), p. 6.

> it might be well to add, we also stopped at the 'stations'.[59]

Fortunately for the railroad at that time, the road to Ibarra was temporarily allowed to fall into disrepair, with landslides blocking the way.[60]

Just a few years later, however, the road, which ran almost parallel, was diverting traffic from the railroad. A transportation expert in the Kemmerer mission, contracted to study the financial situation of the country in 1926, had strongly criticized further work on the railroad rather than concentrating all efforts on roadbuilding.[61] His advice was not taken, but remembered in 1933 since:

> Comienzan a traficar carros por esos caminos del norte, y al mismo tiempo se advierte que el ferrocarril de Quito a Esmeraldas efectúa sus carreras con los vagones casi vacíos, lúgubremente solitarios.[62]

Between 1931 and 1936 the railway was the victim of government instability,[63] but in the latter year the government of Federico Páez came to an agreement with the Italians Eugen and Edwin Scotoni for completion of the line. Despite the enthusiasm with which this contract was greeted, it was to prove the most controversial in the history of the

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[59] K.G. Grubb, Amazon and Andes (New York: Lincoln Macveagh. The Dial Press, 1930), pp. 198-99.

[60] Ibid., p. 197.

[61] Palacios, Ayuntamiento de Ibarra, p. 23.

[62] Oscar Efrén Reyes, Los últimos siete años (Quito: Talleres Gráficos Nacionales, 1933), p. 183.

[63] Murgueytio, "El Ferrocarril Quito-San Lorenzo," p. 93.

railroad.[64] As it was said afterwards, it seemed as if the government wanted to keep the interest of the contractors at all costs, and the conditions were poorly conceived.[65] The company was to receive $3,500,000 and land for colonization. The government soon found itself unable to pay the dollar quotas due, and a report by national engineers showed that the work was not progressing according to schedule.[66] Public sentiment ran against the company, and the subsequent military dictatorship not only declared the contract void but instigated legal proceedings to recover money from the brothers, who meanwhile were imprisoned.[67] The contractors in turn accused the government of failing in its obligations and appealed to the National Assembly of 1938 for a hearing.[68] With an international scandal threatening, the brothers were finally released and the case dropped.

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[64]Eugen Scotoni and Edwin Scotoni, El asunto Scotoni (Quito: Talleres de "El Comercio," 1938).

[65]Baquero, Causas de la depreciación monetaria, p. 59; Boletín Mensual de Obras Públicas, II, Nos. 21-22 (1937), 18.

[66]Ecuador, Informe de la comisión de ingenieros nacionales sobre el contrato y los trabajos ejecutados por la empresa Scotoni en el Ferrocarril Ibarra-San Lorenzo (Quito: Imprenta Fernández, 1937).

[67]Gustavo Buendía, Estado jurídico acerca del contrato del Ecuador con la empresa Scotoni para la construcción del Ferrocarril Ibarra-San Lorenzo (Quito: Talleres Gráficos de Educación, 1938).

[68]Eugen Scotoni and Edwin Scotoni, Réplica al "Estado jurídico" (Quito: Talleres de "El Comercio," 1938); Eugen Scotoni and Edwin Scotoni, Manifiesto de los contratistas del Ferrocarril de Ibarra a San Lorenzo a la Honorable Asamblea Nacional de 1938 (Quito: Editorial "Patria," 1938).

Although for one year the line under construction was administered by the central government, in 1940 a junta was reinstated. The junta arranged a contract with the Compañía Ecuatoriana de Construcciones in the following year, but this was quickly rescinded by mutual agreement.[69] The line, which was now under construction also in the coastal section, only crept along because it was difficult to hire enough labourers since local residents were collecting rubber or working in agriculture.[70] The money available was quite inadequate. Although the national budget had grown, the currency had lost value and the allocation for the project was not increased.[71]

The line in operation showed a profit only for a few years in the early 1940s.[72] With the road running parallel to the railway, the movement of freight between Quito and Ibarra barely required one train a day. In addition, the tracks were rapidly deteriorating. The financial situation had dictated that eucalyptus be used for sleepers, but the

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[69]Junta Administrativa del Ferrocarril Quito-San Lorenzo, Informe presentado al H. Congreso Nacional, 1943 (Quito: Empresa Editora "El Comercio," 1943), pp. 25-29.

[70]Ibid.

[71]Ibid., p. 4.

[72]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1943), p. 5; J. Rodrigo Chávez G., "Influencia del ferrocarril en el desarrollo económico del país: perspectivas para el futuro rentabilidad de los ferrocarriles," Memorias del Primer Congreso Nacional de Ferrocarriles (Quito: Imprenta Nacional del Ferrocarril del Sur, 1949), pp. 357-59.

wood was not really hard enough for the task.[73] Renovation could not be contemplated without funds, and changes from centralized to decentralized administration only hindered progress.

Still it was hoped that the termination of the line would change the fortunes of the railroad and of the north. After centralized administration from 1944, a junta again took charge of the work at the end of 1949 and two years later celebrated contracts with two French concerns, Comptoir International d'Achats et de Ventes à l'Etranger and Enterprises Metropolitaines et Coloniales, for the completion of the line and construction of port facilities at San Lorenzo.[74] Under this contract work on the line progressed and the Ferrocarril del Norte was to be completed in 1957, almost a century after the project had been suggested.

A Highway to the Port of Esmeraldas

In the early years of the nineteenth century the northern provinces concentrated their fervour on the Ferrocarril del Norte, but as roads again became fashionable in the 1920s so a diversity of opinion appeared. Those areas which would benefit by the railway gave support for the continuation of the line to San Lorenzo, whereas many in the province of Pichincha and the southern and central

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[73]Ecuador, Informe del Ministro de Obras Públicas, 1949, pp. 157-59.

[74]Ibid., 1951-52, pp. 275-80.

regions of the Province of Esmeraldas saw their redemption in a highway to the port of Esmeraldas.[75]

Efforts were applied to the opening of two road routes from Quito to the town of Esmeraldas. Through the initiative of Luciano Andrade Marín, the old Maldonado route via Nono and Mindo was reopened as a bridle trail but soon abandoned in favour of the route through Santo Domingo.[76]

This latter route was persistently promoted by Simón Plata Torres who, after surveying the entire region, had decided that the most feasible and advantageous route would be via Santo Domingo de los Colorados and Quinindé, a point on the river which could be reached by motor launches.[77] Plata Torres proceeded to carry out work on the road himself and to prod Congress into allocating funds for the project.[78] His efforts were supported by the government of President Ayora and a road was built from Quito to Santo Domingo, and a bridle path to Quinindé.[79] Unfortunately, the route was not maintained and later had to be recovered from the forest.[80]

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[75]Misael Acosta Solís, Nuevas contribuciones al conocimiento de la Provincia de Esmeraldas (Quito: Publicaciones Científicas, 1944), p. 570.

[76]Luciano Andrade Marín, Una monografía de la Provincia de Pichincha (Quito: Talleres Gráficos Nacionales, 1946), pp. 41-42.

[77]Roberto Andrade, Conferencia, p. 10.

[78]El Ecuador Comercial, IV, No. 32 (1926), 46.

[79]Roberto Andrade, Conferencia, p. 10.

[80]Simón Plata Torres, Esmeraldas y sus riquezas al servicio de la patria (Esmeraldas: Editorial "Ecuador,"

In the 1940s, through the efforts of a junta, mingas were organized and money was allocated to the road.[81] By 1947 automobiles could travel to Santo Domingo, and two years later to Quinindé, inspiring two North American geographers to cite the road as an example of the propitious effect roadbuilding can have in opening up new areas for agriculture.[82] Although in 1952 a contract was signed with a national company to work on the section between Quinindé and Esmeraldas, the road was not completed until after 1954, and would not be asphalt paved for many years.

There is no doubt that transportation routes to Esmeraldas gradually opened up a fertile isolated region of the country for settlement and agriculture, but the highway was to bring longer-lasting prosperity than the railroad.

The railway had been advocated by the northern provinces in their search for an ocean port near to Panama, and even in 1954 San Lorenzo was predicted as a potentially powerful rival to Guayaquil.[83] However, although San Lorenzo was a boom town for some years after the railway

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1949); Simón Plata Torres, Problemas nacionales, internacionales y regionales. Programas de acción presentados por el diputado Simón Plata Torres a la H. Asamblea Constituyente de 1944 (Quito: Imprenta del Ministerio de Educación Pública, 1944).

[81]Enrique Garcés, Mi descubrimiento de Esmeraldas (Quito: Imprenta Municipal, 1944), pp. 6-12.

[82]Raymond E. Crist and Alice Taylor, "Ecuador," Focus, XVIII, No. 2 (1967), 5.

[83]Fernández Alonso, "Las comunicaciones en un país andino," p. 440.

arrived,[84] the port facilities were not completed, the line quickly deteriorated, and in 1970 few ocean-going vessels stopped there. The decision to build the oil pipeline of the 1970s from the Oriente to the port of Esmeraldas and to improve shipping facilities there will probably further detract from San Lorenzo. However, the port of Esmeraldas seems unlikely to be able to vie with Guayaquil as a major commercial center of the country. The northern provinces have their routes to Esmeraldas, but the aspiration for a great port city to rival Guayaquil has not become a reality.

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[84]A.M.S. Graham and David A. Preston, "The New Railway and Port in Northern Ecuador," Geography, XLVI, Part 3 (1961), 247; "Ecuador: Steel Rails open New Frontiers," Latin American Report, I, No. 1 (1956), 24.

CHAPTER X

QUITO TO MANABI

The most direct route to the Pacific coast from Quito would pass through the Province of Manabí. In the nineteenth century the interior of this province was sparsely populated and for a long time almost as unknown "como si fuera el desierto de Africa."[1] Several ports dotted the coastline, the most important of which were Manta, second commercially only to Guayaquil, and Bahía de Caráquez.

Manta, despite its name, was not a well sheltered harbour; and although Julio Castro affirmed in 1861 that "en todo la costa de Manabí, sólo la bahía de Caráquez reune todas las condiciones de un buen puerto,"[2] by the end of the century that port was blocked by sand bars which permitted only small ships to enter the harbour.[3] Neither port was equipped with good shipping facilities. Notwithstanding these deficiencies, both were considered as potential ports for the commerce of the capital, and thus as terminal points of major road and rail projects.

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[1]Juan B. Menten, Ferrocarril de Bahía (Quito: Imprenta del Clero, 1887), p. 6.

[2]Castro, "Páginas de una cartera de viaje," p. 177.

[3]Frederic M. Halsey, Railway Expansion in Latin America (New York: H. Oliphant & Co., 1916), p. 65.

Roadbuilding Projects of the Nineteenth Century

In his letter of August 14, 1822, Juan Illingworth recommended to General Sucre the opening of a road to Manabí rather than to Esmeraldas on the grounds that:

> La Prova. de Pto. Viejo encierra dos puertos, la Bahía de Manta y la de Caracas, cuyas mareas suben hasta Chone, qe. vista a 22 leguas de esa Capital: dha. Prova. tiene buenas tierras de toda siembra, 20 mil almas industriosas, tierras salitrosas qe. se pueden beneficiar en salinas, y, finalmente, 20 mil títulos a la beneficencia del Gobno.[4]

In 1826 a decree ordered the construction of roads to both Manabí and Esmeraldas, offering tax exemptions for settlers in the towns and along the roads, and reduced customs tariffs for all commerce, except brandy, passing through the ports. A few years later a reward was offered to anyone furnishing the government with a survey of a road.

Controversy arose over the route to be developed between Manabí and the capital. One possible way led from Manta through Quevedo and Latacunga, and another from Bahía through Chone and Santo Domingo.

The Manta-Quevedo-Latacunga road was declared one of the four most important roadbuilding projects in the nation in 1846. Sebastian Wisse, after surveying the entire region, concluded that this route was "el único camino posible en la actualidad para unir las dos provincias de Pichincha y Manabí," and that the other route from Bahía through Chone would constitute "una obra dilatada y muy

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[4] Boletín Mensual de Obras Públicas, V, Nos. 56-58 (1940), 98.

costosa."[5] Laws were passed in 1854 and 1855 to promote the Quevedo route, but to no avail; as the Governor of the Province of Manabí explained in 1857:

> El camino por Quevedo para facilitar las relaciones y el comercio interior de las provincias de Leon y Pichincha con esta, no ha sido atendido de ningun modo, porque hasta aquí no se ha formado un plan eficaz para su apertura, y porque ni el interes empresario, ni la opinion pública no han manifestado empeño, ni han trabajado por esta obra importante.[6]

During the summer months the traveller could go by horse, but in the winter the route was "casi intransitable á causa de las crecientes de los rios, i de los muchos fangales i atolladeros que se forman en los bosques."[7]

During the next decade the government of Jerónimo Carrión (1865-67) recognized the value of a good bridle path from Manabí to Pichincha or León (to become Cotopaxi in 1938). Decrees were issued for construction of a trail, and a contract was signed with José del Carmen and Pedro Alva, but little progress seems to have been accomplished.

Under García Moreno, the Bahía-Chone-Santo Domingo route came into favour; a survey was conducted by the English engineer Arthur A. Rogers. The route was enthusiastically championed by Juan Menten who, in a report to Congress in 1878, said that it should be given preference even over the Guayaquil-Quito road since:

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[5]Tobar Donoso, "El ingeniero Sebastian Wisse," p. 190.

[6]Ecuador, Informe del Ministro del Interior,(1857), p. 52.

[7]Villavicencio, Geografía, p. 143.

> Fácil fuera, no lo dudo, abrir en pocos meses la pica ó trocha por lo menos hasta Chónes, para dejar de una vez espedito un camino tan deseado, tan útil y, según me parece, de tanta esperanza, ya por la facilidad y riqueza de los terrenos. El tiempo que podrá emplearse para llegar á la costa, acabado este camino, será de tres o cuatro dias á lo mas.[8]

Menten set about improving the trail on his own initiative until in 1883 Eloy Alfaro, as head of the provisional government of Manabí and Esmeraldas, ordered the opening of a road, to be called the "Camino Sisandino," from Bahía to the interior, and entered into a contract for its construction.

Just when progress seemed assured, the project was brought to a halt by an outbreak of revolutionary activity in Manabí, and "así quedó sepultada una positiva esperanza."[9] Menten did not cease to advocate the project, however, and in his report as Director General of Public Works in 1892 he claimed: "He sido siempre y seré defensor de una comunicación directa con la Costa de Manabí que fuera como punto de partida para aumento de agricultura, comercio é industria."[10] Decrees in 1894 and 1897 emphasized the immediate need for a bridle path, but it was now the era of the railroad in Ecuador and more encouragement was given to projects for communication by rail rather than by road.

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[8]Juan B. Menten, Informe sobre los caminos de la República, p. 8.

[9]Ecuador, Informe del Ministro de lo Interior, 1892, Part 2, p. 20.

[10]Ibid., p. 4.

Railways

The Bahía-Chone Railway

The possibility of a railway along the Bahía-Quito route was not envisaged in the famous 1861 law, the first on railroads, but it was discussed and studied during the second administration of García Moreno (1869-1875). In the mid-1880s two national engineers, Antonio Sánchez and Modesto López, both stressed the advantages of a railway line over a road,[11] and the government authorized the investment of funds in such a project.

By 1887 Congress was seriously considering a contract with Ignacio Palau, a Colombian resident in Ecuador, for the construction of the Ferrocarril Central, a narrow-gauge line based on Menten's plans. The line would be built from Bahía to Chone in the first instance, and later extended to Quito. In the meanwhile the contractors would open a trail from Chone to Santo Domingo within one year and improve and maintain the road from Santo Domingo to Quito. J. Gualberto Pérez and Antonio Sánchez, who were asked by the government to study the proposal, disagreed. Pérez found the price per kilometre (30,000 sucres) a fair one, whereas Sánchez believed it too high.[12] Juan Menten and Mark Jameston

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[11]Antonio Sánchez, El ferrocarril de la capital al puerto más cercano es el único medio para la prosperidad y el engrandecimiento de la nación ecuatoriana (Quito: Imprenta del Clero, 1884), p. 4; Modesto López, "Caminos," in Ferrocarril (n.p.: Fundición de Tipos de M. Rivadeneira, 1885), p. 17.

[12]J. Gualberto Pérez, Informe sobre el ferrocarril de Quito a Bahía (Quito: Imprenta del Clero, 1887), pp. 1-9.

Kelly, the entrepreneur of the Ferrocarril del Sur, were then consulted and both opined that it was a reasonable contract;[13] Kelly added that if Palau built such a line:

> ..habrá contribuído poderosamente no sólo al desarrollo de la riqueza de aquella provincia, sino al afianzamiento en ella de la paz pública, tantas veces alterada, quizás más que otra cosa, por la falta de medios fructuosos de trabajar.[14]

Congress agreed to the proposal in August, 1887.

Palau hastened to comply with the time schedule of the contract, hiring engineers to survey the rail route and subcontracting the work on the road. Lacking private funds for the project, he had to search for backers in Europe, where he organized the Ecuador Central Railway Company Limited with English capital. Meanwhile, the government of Antonio Flores decided to halt the payments of the customs revenue that were assigned to the project, and to start legal proceedings against Palau on the grounds that the work was not progressing according to the stipulations of the contract.[15]

The newly formed English company sent an engineer, Charles Clegg, to survey the proposed line. Clegg reported favourably on the project but stated that it would cost

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[13]Juan B. Menten, Una opinión decisiva (Quito: Imprenta del Clero, 1887); M.J. Kelly, Ferrocarril de Quito a Bahía (Quito: Imprenta del Clero, 1887).

[14]Kelly, Ferrocarril de Quito a Bahía, p. 6.

[15]Ignacio Palau, Exposición del contratista del Ferrocarril Central a las HH. Cámaras Legislativas de 1890 (Quito: Imprenta del Clero, 1890); Ignacio Palau, Ferrocarril Central. Hagamos luz (Bahía: Imp. de "El Comercio," 1890).

more than Palau had believed. A new proposal was made by the company for the construction of the line and a halt to the litigation.[16] The company promised to build a railway to Quito within eight years "salvo fuerza mayor o caso fortuito";[17] the line was not built.

Edmund Catefort, a Frenchman resident in Quito, came to an agreement with the government of Eloy Alfaro in 1900 to build this railway within five years. The government guaranteed four per cent interest on the capital investment. Two years later, the time limit was extended to seven years, and the rate of interest raised to six per cent. Although Catefort had not initiated work by 1908, he sought to retain his contractual rights by arbitration, and won his case.[18] He organized in France La Compagnie de Chemins de Fer de l'Equateur, and construction began in 1909.

A line was built to Calceta, and then work continued on what was originally intended as a branch line to Chone, covering almost 50 miles. An additional contract was celebrated in 1910 which permitted the construction of further branch lines, one from Chone to Ricaurte, and another to Guayaquil. The branch line to Chone was put into service by 1913, but the main line to Quito, the principal goal of the original contract, was ignored.[19]

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[16]Ferrocarril Central (n.p.: Imprenta del Clero [1890]).

[17]Ecuador, Colección de leyes, 1890, p. 26.

[18]Ecuador, Informe del Ministro de lo Interior (Quito, 1915), p. Lxi.

[19]Ibid.

Since the government disagreed with the company on the interpretation of the contract, it refused to hand over the interest payments until 1913. The company responded that it was unable to continue the project since it could not distribute shares on account of the country's poor credit.[20] Agreement on some points was reached in 1913, but the outbreak of World War I spelled the end of the French company's interest in the continuation of the line. In 1916 it agreed to hand over the administration of the line to a receiver.[21]

The track had not been well laid in the first instance and it quickly deteriorated through lack of maintenance.[22] Each winter traffic was paralyzed. During the civil war of 1913-16 the line suffered both at the hands of the revolutionaries and the government troops, without receiving compensation from either. After the severe winter of 1917 had destroyed the iron bridge across the River Calceta, the Calceta-Chone section was abandoned for 15 years.[23]

The railway was important to the nation in that it transported water and local tropical export products,

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[20] Ibid., p. Lxiii.

[21] Ecuador, Informe del Ministro de lo Interior, 1922, p. 115.

[22] Pablo Hahn, "Estudios sobre las posibilidades de mantenimiento propio del Ferrocarril Bahía-Chone," in Memorias del Congreso Nacional de Ferrocarriles (Quito: Imprenta del Ferrocarril del Sur, 1949), p. 380.

[23] J. Augusto Murgueytio D., "Los ferrocarriles en la Provincia de Manabí: el Bahía-Chone," Nariz del Diablo, VII, No. 16 (1965), 38-39.

particularly cacao, to the port. Since its income did not cover expenditures, an annual subvention had to be assigned. After administration by a series of receivers, in 1927 the Ministry of Public Works took over the line and some economic and technical improvements were seen. The introduction in 1936 of railcars to replace steam locomotives for both passengers and freight gave a much-needed boost to the line. But the track was still in such a deplorable condition that the service was frequently suspended during the winter months.[24]

After World War II, competition from a rapidly increasing number of motor vehicles became intense during the dry season when roads were passable. In addition, a pipeline was laid to convey water to the town of Bahía. The railroad retaliated by lowering its charges during the summer months, but it was fighting a losing battle. The tide of road competition could not be stemmed, and the line operated at a loss until its death in 1966.

The Manta-Santa Ana Railway

"Obra es esta que contribuirá como ninguna al desarrollo comercial de Manabí."[25] So spoke a Minister of the Interior in 1913 about the railway running from the port of Manta to the town of Santa Ana, some 28 miles inland. Although the line had been initiated primarily to tap the

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[24]Hahn, "Estudios," p. 381.

[25]Ecuador, Informe del Ministro de lo Interior (Quito, 1913), p. Lix.

area of the hinterland that produced tagua nuts, rubber, and cacao, at one time it was also planned either to link up with the Bahía-Chone line or to continue the tracks to Quevedo and Quito, thus providing a direct route between Manta and the capital.

Plans for a railroad had been mentioned in the last years of the nineteenth century, and in 1902 Congress decided to satisfy insistent local demands by authorizing the organization of a junta to promote the "Ferrocarril Provincial de Manabí." The decree did not permit this body to entrust the entire project to one single contractor. Consequently, the junta hired the engineer Gaston Thoret to chart the route, commissioned a firm in Guayaquil to supply some of the equipment, and directed Pablo Gozenbach to construct a viaduct and a bridge. Then a contract was agreed with Eugenio Santos to build part of the line, but shortly the results were deemed unsatisfactory and work was suspended.[26]

Several proposals, including one by the Guayaquil and Quito Railway Company, were made to resume construction, but not until 1909 was a contract entered into in earnest. Pablo Gozenbach agreed to build the railway and a pier in Manta, but in the next year he handed over his concession to the Central Railway Company of Ecuador which was registered in London.

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[26]J. Augusto Murgueytio D. provides details of contracts and reports in his article "Ferrocarriles de Manabí: el Manta-Santa Ana," Nariz del Diablo, VII, No. 17 (1965), 38-52.

In 1914 the line reached Santa Ana and the company signed a further contract for an extension to Paján. Acting on the report of an inspecting engineer, however, the government refused to accept officially the work that had been completed, claiming that it was not consistent with the terms of the contract. In this way the government was not obliged to pay the interest it had guaranteed.[27]

With a World War in Europe and a revolution at home, the line deteriorated rapidly. As exports declined, so freight diminished. Passenger traffic disappeared through fear of assaults on trains, and construction had to be suspended as bandits were seizing equipment and intimidating workers. To add to the confusion, a principal employee of the line was accused of participating in the hold-up of a train.

Such a state of chaos came to a climax in 1916 with the suspension of all traffic. This was a serious blow to the region as the mules which had once transported freight had now disappeared.[28]

To help remedy the situation, the government agreed to a loan for maintenance and continuation of the tracks to Paján. To ensure that the money would be well spent, a government auditor was assigned. Nevertheless, the line was extended only a few more miles. The polemics between

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[27]Ecuador, Informe del Ministro de lo Interior (Quito, 1922), p. 107.

[28]Murgueytio, "Ferrocarriles de Manabí: el Manta-Santa Ana," p. 47.

the government and the company recurred, with the result that the English manager fled the country.

In 1921, after long drawn-out negotiations, an agreement was reached and the management of the line was returned to the company. Until the 1920s the line had operated at a loss, but then began to show a small profit.[29] However, after World War II, this railway, like the others in Ecuador, could not continue to function on a sound economic basis. In 1946 the company renounced its rights to further exploitation, and the state decided to dispense with the line. Yet another railway that had never been completed was to be dismantled.

Highways

In the first two decades of the twentieth century railroad construction attracted foreign financing and captured public enthusiasm more easily than roadbuilding projects. Nevertheless, some efforts were made to promote trails and roads between Quito and Manabí. When it became apparent that there was little chance of the railroads reaching Quito, then road enthusiasts took the field in large numbers.

Quito-Santo Domingo-Chone-Bahía

J. Luis Clavijo, a keen proponent of the route to

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[29]U.S., Department of Commerce, Bureau of Foreign and Domestic Commerce, Railways of South America. Part II: Bolivia, Colombia, Ecuador, Guianas, Paraguay, Peru, Uruguay, and Venezuela, by W. Rodney Long, Trade Promotion Series No. 39 (Washington, D.C.: Government Printing Office, 1938), p. 137.

Bahía in the early years of this century, published pamphlets emphasizing the need for funds and surveys of the section between Quito and Santo Domingo.[30] He observed that the Quito-Bahía road was required as a national defense measure against encroachment by foreigners, and that if the country decided to rent or sell the Galapagos Islands (see above, n. 76, p. 133), then the money should be used on this road.[31]

The discovery of a new route between Quito and Santo Domingo was announced in 1919,[32] and a few years later Carlos Brown contracted with the junta in charge to carry out a survey. In the administration of Isidro Ayora, the government authorized financial assistance to improve the existing trail. Dilapidated wooden bridges were replaced by more permanent structures, and some modern tractors were allocated to the project. Under the junta the work progressed, but only slowly. Traffic could travel from Quito to Santo Domingo by 1947, although the entire route from Quito to Bahía would not be passable all year round for over another decade.

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[30]J. Luis Clavijo, Santo Domingo de los Colorados: su porvenir (Quito: Emprenta de la Gutenberg, 1907); J. Luis Clavijo, Santo Domingo de los Colorados: su porvenir. Continuación (Quito: Tip. de la Escuela Artes y Oficios, 1908).

[31]Clavijo, Santo Domingo de los Colorados: su porvenir. Continuación, p. 31.

[32]Pablo Reyes, Monografía del Canton Mejía de la Provincia de Pichincha (Quito: Imprenta Municipal, 1920), p. 103.

Quito-Latacunga-Quevedo-Manta

This road, "una de las obras de mayor trascendencia en el país,"[33] was built principally by foreign concerns. The Cotopaxi Exploration Company, exploiting copper in Macuchi, started to construct a 70-mile stretch towards Latacunga in 1937. Albert Franklin travelled by car over this roadway and described it as in very good condition.[34] The government added a further 17 miles.

The section between Manta and Quevedo was the subject of a series of contracts with North American construction companies. A loan by the Export-Import Bank of US$2,500,000 enabled the Corporación Ecuatoriana de Fomento, founded in 1942 to stimulate production and transportation, to enter into a contract in 1944 with Ambursen Engineering Corporation. The Ecuadorean agency failed in its task of supervision, and a report by an official of the Ministry of Public Works embodied harsh criticism, observing that the work was slipshod, that machinery was left to rust, and that the foreign technicians were receiving higher salaries than the president of the republic.[35] According to the terms of the contract, only the Ecuadorean corporation, not the Ministry, could deal directly with the company. However, the government accused the construction company of

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33Ecuador, Informe del Ministro de Obras Públicas (Quito, 1947-48), n. 7.

34Franklin, Ecuador: Portrait of a People, p. 23.

35Núñez, "Informe sobre la fiscalización e inspección de la Carretera Quevedo-Manta."

interference in internal affairs and forced it to leave the country.[36]

Another North American company, Nathan A. Moore, undertook the project in 1949, but its financial resources were not adequate for the task. In an attempt to avoid paralyzation of the work, the national company INCA subcontracted for sections. Local complaints about the slow rate of construction reached a pitch in June, 1951, obliging the Minister of Public Works to present an explanation of the situation before an open assembly.[37] By the end of the year the contract with Nathan A. Moore was terminated. The Quevedo-Manta road was completed, with asphalt-paving throughout, by a third North American company, J.A. Jones Construction Company, which took over in 1953.

For a short time it seemed as if the route between Quito and Manabí would live up to the high hopes that had been held for it over several centuries. Felipe Fernández Alonso remarked in his survey of transportation, "Dado, pues, su buen estado, es muy posible que se convierta en la vía preferente de enlace entre la 'sierra' y la 'costa'."[38] As soon as alternative routes were readied, however, it became apparent that this was not to be its destiny.

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[36]Linke, Ecuador, p. 121.

[37]Ecuador, Informe del Ministro de Obras Públicas, (Quito, 1951-52), p. xii.

[38]Fernández Alonso, "Las comunicaciones en un país andino," p. 434.

CHAPTER XI

ACCESS TO THE OCEAN FOR THE SOUTHERN PROVINCES

The economic progress of the southern provinces of Loja, Azuay, and Cañar was retarded by the lack of adequate means of communications. The Director General of Public Works in 1892 informed the Minister of the Interior:

> El aislamiento, tanto de las demás provincias del Interior, como de la Costa, ha sido casi completo, razón por la cual el progreso material, si en las demás provincias del Interior ha sido pequeño, resulta para esas provincias más que reducido, y lo será todavía por largo tiempo.[1]

Access to the region was so difficult that when droughts occurred, as in 1882-83, foodstuffs from afar could not be introduced quickly and some settlements disappeared.[2] In such a case one could accept literally the statement "la vialidad significa la vida de los pueblos."[3]

After travelling in the province of Loja, Theodore Wolf reported:

> Hasta los últimos tiempos nunca se ha pensado ántes en la mejora de los caminos, y facilmente se comprenderá el estado pésimo y a veces horroroso de las vías de comunicación de esta provincia, en cuya consecuencia su industria, agricultura, comercio quedan muy atrasados y sus habitantes

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[1]Ecuador, Informe del Ministro de lo Interior, Part II, 1892, p. 9.

[2]Remigio Crespo Toral, La vialidad en las provincias del Azuay y Cañar (Cuenca: Tip. de la Universidad, 1931), p. 5.

[3]Ibid., p. 4.

> aislados y casi incomunicados con las demás partes del pais y con el mundo entero.[4]

Even in 1934 Congress had to admit "que durante los CXII años que lleva Loja de vida independiente ha permanecido casi en completo aislamiento con el resto de la república."[5] It was not for lack of petitions and requests by the people of the province that the situation was not ameliorated.

The southern provinces clamoured for roads and railroads to an ocean port. They insisted that "la comunicación con el mar responde a una necesidad de vida que no puede aplazarse."[6] In El Oro province, Puerto Bolívar, only four miles from Machala, became the port of embarkation for the two railroads and several major roads, and overtook in importance the port at Santa Rosa. From Cuenca, the provincial capital of Azuay, commerce made its way also to the coast of Guayas province: to Naranjal, a river port accessible to small steamboats, and to Guayaquil.

Roads

There were four major roads between the southern Sierra and the Coast. Two led from Cuenca to ports in Guayas province. Another, the route along the Jubones valley to Puerto Bolívar, served both Azuay and Loja. The

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[4]Theodore Wolf, Viajes científicos por la República del Ecuador, Vol. 1: Provincia de Loja (Guayaquil: Imprenta del Comercio, 1879), p. 3.

[5]Ecuador, Registro Oficial, 1934, p. 419.

[6]Junta Promotora del Ferrocarril del Sur, Manifiesto y Reglamento (Cuenca: Imp. de Vélez Hnos., 1916), p. 7.

most southerly carried traffic from Loja to Santa Rosa or Puerto Bolívar.

Cuenca to Guayaquil

The most northerly of the routes from Cuenca led through Cañar to Guayaquil. Villavicencio reported on this trail in 1858:

> Este camino llamado de Cañar es frecuentado por los de este canton, en verano, con sus recuas de mulas cargadas de víveres, i que en retorno regresan cargadas de sal; tiene el inconveniente de ser algo quebrado i con torrentes, que, con las nevadas de la cordillera, forman rios peligrosos por su correntada.[7]

The road led over difficult terrain, including "el obstáculo insuperable del Bueste, famoso desfiladero de fango, incomponible desde la época de la Colonia,"[8] and the similarly infamous Páramo de Azuay, where "sorprendidos frecuentemente por las nieves, han quedado muchas veces sepultadas en ellas caravanas de hombres y animales."[9] A tambo was built in Paredones, the site of an Inca palace, to provide some aid to travellers.[10]

According to Sebastian Wisse, some of the mule trains on their way to Guayaquil went as far north as Alausí before descending the cordillera.[11] A law in 1880 ordered

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[7]Villavicencio, Geografía, p. 146.

[8]Crespo Toral, La vialidad, p. 8.

[9]D'Orbigny, Viaje pintoresco, p. 92.

[10]Ecuador, Exposición del Ministro del Interior, 1856, p. 13.

[11]Tobar Donoso, "El ingeniero Sebastian Wisse," p. 207.

the construction of a road by the route charted by Modesto López from Cuenca to meet the Quito-Guayaquil thoroughfare.

After the turn of the century the traveller took the train between Guayaquil and Huigra, and then rode three days on muleback to Cuenca "over trails which even in Ecuador [had] an evil reputation."[12] In 1903 John Harman had agreed to build part of a road from the Ferrocarril del Sur station at Huigra to El Tambo, but "a poco, la benevolencia de la altura desligó a Harman de sus obligaciones."[13] Once the railroad between Sibambe and Cuenca was under construction, traffic used sections of the railbed.

A major road from El Tambo to Durán was conceived in 1931 and a route was charted.[14] The project was then forgotten for a decade until General Ricardo Astudillo, in charge of the military zone of Guayaquil, revived it as he considered it of strategic importance.[15] Work on the coastal section began after the Peruvian invasion of 1941, and work on the Sierra section in the following year.[16] In 1948 a contract was signed with an Ecuadorean contractor and in 1954 the road was inaugurated. Of this road it has been said:

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[12]Blair Niles, Casual Wanderings in Ecuador (London: John Long Limited, 1923), p. 82.

[13]Crespo Toral, La vialidad, p. 35.

[14]C. Abelardo Andrade y A., ed. La carretera Tambo-Durán (Cuenca: Editorial "Amazonas," 1951).

[15]Ibid.

[16]Ponce Martínez, "La construcción de carreteras y caminos," p. 47.

> It is of vital importance since it facilitates the access of enterprising montuvios from the coast as well as that of land-hungry Sierra families to some of the richest agricultural land of the country. Thousands of acres on either side have successively been put under cultivation.[17]

Cuenca to the River Naranjal

Almost parallel and to the south of the Durán-Tambo highway ran the very old route from Cuenca to the River Naranjal. Many were the decrees that dealt with this road in the nineteenth century. This was one of the four roads to the sea whose opening the Congress of 1846 declared as of national significance. Around mid-century it was the most frequented route between Cuenca and Guayaquil.[18]

Although it was much traversed, it was in very poor condition. The Minister of the Interior for 1854 reported:

> El camino del Naranjal, que pone en íntima comunicacion á la provincia de Cuenca con el litoral de la República, ha sido una empresa concebida de tiempos atras; se han votado grandes cantidades por diferentes Congresos, se han invertido sumas cuantiosas y nada habia podido adelantarse.[19]

Two years later the complaint was the same: "Este camino ha absorvido inmensos caudales y no ha recibido ninguna mejora positiva hasta la fecha."[20] In 1857 the Minister of Finance admitted, however, that money allocated for the

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[17]Linke, Ecuador, p. 121.

[18]Villavicencio, Geografía, p. 147.

[19]Ecuador, Exposición del Ministro del Interior (Quito, 1854), p. 23.

[20]Ecuador, Exposición del Ministro del Interior, 1856, p. 13.

road had in fact been used for other purposes.[21]

Travellers' comments on the trail were by no means commendatory. The description of George Pritchett, the Englishman sent to select sites for the English Land Company in 1856-57, was quite succinct:

> On returning to Cuenca I proceeded to the coast to the port of Naranjal, about 28 leagues, by the usual road, the imminently dangerous character of which I will not attempt to describe: suffice it to say, that the experience of its road accounts perfectly for the benighted and prejudiced state of this, the most backward province of the republic.[22]

Villavicencio, only a short time afterwards, told of the obstacles he encountered:

> La mala calidad de este camino consiste en los fangales de Molleturo, en el terrible i molestoso descenso de Chalaput, que es estrecho, fragoso, lleno de fangos, i casi intransitable en el invierno.[23]

Despite the condition of the road, or perhaps because of it, governments continued to preoccupy themselves with construction.

The administration of García Moreno acted zealously to improve the road. Christopher Thill directed work until 1869;[24] and a loan was provided by the Banco del Ecuador as the costs of the work were high.[25] But the project was not

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[21]Ecuador, Exposición del Ministro de Hacienda, 1857, p. 32.

[22]Pritchett, "Explorations in Ecuador," p. 71.

[23]Villavicencio, Geografía, p. 147.

[24]Ecuador, Informe del Ministro de lo Interior, Part II, 1892, p. 12.

[25]Ecuador, Exposición del Ministro de Hacienda, 1871, p. 42.

to be completed since "las providencias dictadas por el Gobierno encallaban ante la resistencia de los moradores del Azuay que se oponian á la obra, y ante la inercia con que, los que se llamaban partidarios de ella, se mantenian en tales circunstancias."[26] This was not the first occasion on which the people of Azuay had opposed the project; some fifteen years earlier they had refused to work on the road.[27]

Theodore Wolf doubted that this road would ever be completed.[28] Nevertheless, the government persevered until in the 1880s the possibility of a railroad from the coast diverted attention from the road.[29] Now if a road were to be opened, it would only be to prepare the way for the projected railway.[30] So it was that the Minister of Public Works in 1898 echoed Wolf's sentiments: "Este camino que es el más corto de cuantos enlazan el litoral con las ciudades interandinas, se lo trabaja desde tiempo inmemorial, sin saberse cuándo podrá ser terminado."[31]

In the twentieth century little mention of the route

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[26]Ibid.

[27]Ecuador, Exposición del Ministro del Interior, 1856, p. 13.

[28]Theodore Wolf, Viajes científicos por la República del Ecuador, Vol. II: Provincia del Azuay (Guayaquil: Imprenta del Comercio, 1879), p. 8.

[29]Ecuador, Informe del Ministro de lo Interior, Part II, 1892, p. 12.

[30]Ibid., p. 11.

[31]Ecuador, Informe del Ministro de Obras Públicas, 1898, p. xxxvi.

is found, although in 1926 it was reported that much of the road had been destroyed.[32] Remigio Crespo Toral, a cuencano with a great interest in roadbuilding, has suggested that if only efforts had been concentrated on the Naranjal route, the southern provinces would have had at least a good road to the sea, instead of the mere illusion of a railroad.[33]

The Jubones Valley Route to Puerto Bolívar

The route that gained by the loss of interest in the Naranjal road led from Girón along the Jubones valley to Puerto Bolívar. It was a route that could profit both Azuay and Loja. In many respects this valley seemed to indicate "la vía natural y única de penetración de la costa a la altaplanicie."[34] This was the route:

> . . . por la que nuestros aborígenes salieron a los Llanos de la costa del Perú, la misma que utilizó Tupac Yupanqui para penetrar a Cañaribamba, la que utilizó Sucre en parte para la jornada de Pichincha, la única de las invasiones de conquista que en guerra civil se hicieron en 1895 y 1896.[35]

In 1884 the government ordered the construction of a bridle trail that could serve as a railbed from Cuenca to Machala. Some of the funds allocated to the Naranjal route were to be used for this project. Towards the end of the

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[32]Luis F. Mora and Arquimedes Landazuri, Monografía del Azuay (Cuenca: Tipografía de Burbana Hnos., 1926), unnumbered pages.

[33]Crespo Toral, La vialidad, p. 18.

[34]Ibid., p. 17.

[35]Ibid.

same year José Flor and Tomás Talbot were commissioned by the town of Girón to discover the most direct route between Cuenca and Puerto Bolívar. They wrote that the route along the Jubones valley through Pasaje was the only one that was suitable.[36] It was hoped that the government would adopt this route.[37]

Apparently the government did not respond by building this road, nor did the railway to Cuenca get beyond the stage of planning before the 1920s. Not that the route was entirely forgotten. In 1887 the Governor of Azuay was authorized by law to build such a road, and in 1898 the Minister of Public Works declared that this would be the most convenient way to the ocean for the province of Loja.[38] After that it was not until 1923 that attention turned once again to the Cuenca-Puerto Bolívar route, and even then it was another 20 years before the traveller could proceed as far as Girón "con relativa seguridad en todo tiempo, si el invierno no es muy riguroso."[39]

In 1944 part of a loan from the Export-Import Bank was applied to the project on account of its potential economic

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[36]José A. Flor and Tomás Talbot, Exploración del camino del Azuay a la Provincia del Oro. (Cuenca: Impreso por Benigno Illauri, 1885), p. 1.

[37]Ibid.

[38]Ecuador, Informe del Ministro de Obras Públicas, 1898, p. xL.

[39]Andrés F. Córdova, El problema vial del Ecuador (Cuenca: Editorial "El Mercurio," 1944), p. 19.

importance.[40] A few years later the Ministry of Defense asked that the road be given preferential attention for strategic reasons.[41] It was completed towards the end of 1954.[42]

Loja to Puerto Bolívar

The most southerly of the major routes to the coast led from Loja through Zaruma to the port of Santa Rosa or to Puerto Bolívar. It was a long, arduous route and, according to Villavicencio in 1858, it was impassable during the winter months when the rivers were swollen.[43]

García Moreno concerned himself with improving this southern road and sent an engineer to study the route. However, the government felt itself already burdened with too many projects to proceed further.[44] Theodore Wolf traversed the trail in 1876 and attested to the hardships for travellers "en este camino trabajoso, en que los arrieros de Zaruma en el invierno sacrifican sus bestias y a veces su propia vida."[45]

By 1881 work on the road was resumed but only, as George

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[40]Ponce Martínez, "La construcción de carreteras y caminos," p. 47.

[41]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1948), p. 15.

[42]Linke, Ecuador, p. 122.

[43]Villavicencio, Geografía, p. 148.

[44]Ecuador, Exposición del Ministro de Hacienda, 1871, p. 42.

[45]Wolf, Provincia de Loja, p. 4.

Earl Church tells, "in a sickly manner."[46] A contract for a railroad along the route was signed in 1883; nevertheless, the government of José María Caamaño foresaw the possibility that the railway might not be completed and so ordered the continuation of the bridle trail. Further funds for the road were assigned in a law in 1887.

In 1892 the Portovelo mines at Zaruma, producing considerable gold and silver, were taken over by the South American Development Company. The company agreed in 1910 to build a bridle trail from the mine to Santa Rosa within five years. The time limit was prolonged in 1917 for six years, but by an agreement of 1926 the conditions of the contract were changed, and the company promised to provide material for the railroad instead of roadbuilding.[47]

Just before the end of the nineteenth century Tomás Rodil, the son of an Irishman who had fought in the liberation struggles, planned a more direct route between Santa Rosa and Zaruma. Work on the section did not begin until 1931 and the roadbed of the Vía Rodil was not completed until 1945.[48]

In the 1920s, whereas the hopes of many regions of the country were turning to highways, the people of Loja and El Oro saw their railroad finally in the process of

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[46]U.S., Ecuador in 1881, p. 50.

[47]Boletín Mensual de Obras Públicas, III, Nos. 23-25 (1938), 87-88.

[48]Virgilio J. Mendoza, Monografía descriptiva de la Provincia de El Oro (Cuenca: Talleres Tipográficos Salesianos, 1946), p. 74.

construction. It led only to Piedras, however, and the road remained the principal means of communication between the two provinces. It was said of the route in 1938:

> Sin lugar a equivocarnos, podemos afirmar taxativamente, que Loja comienza, con la vía Puerto Bolívar-Loja, a constituir un mercado nuestro, un jirón de auténtica ecuatorianidad, un filón de riqueza que dirige sus vetas a la entraña de la Patria.[49]

Nevertheless, in 1954 only about one half of the road was passable by traffic all year round.[50]

Railroads

Many and varied were the proposals for railroads to link the southern provinces with the coast. Only three lines resulted. Two of these started from Puerto Bolívar and reached only as far as Pasaje and Piedras, some 62 miles in all. Once under centralized administration, they became known as the Ferrocarriles de El Oro. The third line was, in reality, simply an extension of the Ferrocarril del Sur, since it started in the highlands at Sibambe and led to Cuenca.

Ferrocarriles de El Oro

Two railroads were envisaged in the law that congress passed in 1861 concerning railroads: one line was from Naranjal to Cuenca, the other from Santa Rosa to Zaruma. A decade later, Tomás Toral, Luis Cordero, and Francisco

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[49]Luis Aníbal Sánchez, "Importancia de la vía Puerto Bolívar-Loja," Boletín Mensual de Obras Públicas, III, Nos. 26-31 (1938), 87.

[50]Fernández Alonso, "Comunicaciones en un país andino," p. 435.

Moscoso broached the idea of a railroad from the coast to Azuay.[51] A similar proposal was made to the National Assembly of 1878 by Theodore Wolf after he had completed his geographic surveys of the provinces of Loja and Azuay.[52] A number of contracts followed but none was to be implemented.

General Veintimilla ceded to Wolf and Spyer in 1878 the right to build a railway from Machala along the valley of the River Jubones to Cuenca. President José María Caamaño signed two decrees in 1884 for railroads in the south. The first was to denote acceptance of the proposal of the Central American General Juan Antonio Medina to build and administer a line from Machala through Cuenca to Azogues; the second was to approve a contract drawn up in the previous year between the provisional government of Quito and Manuel Federico Muñoz and Gustavo Wilczynski for a narrow-gauge line from Santa Rosa to Zaruma. Medina's proposal is said to have failed on account of "egoísmos regionales."[53] Muñoz and Wilczynski, who were supported by an English mining company, could not find sufficient financial backers, despite the claim that the completion of the

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[51]Crespo Toral, La vialidad, p. 35.

[52]Miguel Cordero Dávila, Contramensaje del patriotismo, de la cordura y del desinterés, a la noble provincia de Loja. El ferrocarril de las provincias que no quieren estar a merced del Perú. (Cuenca: Tip. Municipal, 1923), p. 16.

[53]Jorge Burbano de Lara, "La carretera Cuenca-Pasaje y el origen de su construcción," Boletín Mensual de Obras Públicas, VI, No. 59 (1943), 80.

project "no puede ser jamás en duda."[54] Four years later Alberto and Nicolás Muñoz Vernaza contracted to build a line through Cuenca to Azogues, proposing to start from Puerto Bolívar. The contractors intended to exploit coal near Biblián. A navigable point on the Amazon was the destination of a railroad proposed by Salvador Ordóñez and Russell Duane.[55] With some justification this series of projects has been characterized as "contratos de farsa."[56]

By 1892 the people of Machala resolved to undertake the project themselves. A tax on coffee that had been collected with the aim of installing a drinking-water system in Machala, had only rendered half of the sum needed. The city proposed, therefore, to add to this tax and apply it to a railroad from Puerto Bolívar to Pasaje and Cuenca. The section to Pasaje would serve the cacao producers of the region. In the same year the city council contracted the Englishman Azael Dana Pipper to start on the railbed, but the work was soon suspended through lack of funds. Construction, directed by the French engineer Gaston Thoret, was resumed in 1894. The cacao tax had to be raised twice more before the train reached Machala in 1899, and Pasaje, at a distance of 16 miles, in 1903. Congress then authorized the municipality to contract for offshoots of the main

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[54]Santaroseños, Provincia del Oro (Quito: Imprenta de Manuel V. Flor, 1884), p. 5.

[55]Crespo Ordóñez, Historia del Ferrocarril del Sur, p. 46.

[56]Crespo Toral, La vialidad, p. 35.

railway to El Guabo and Buenavista.

The branch to El Guabo was built between 1906 and 1908, but a change in direction of the River Jubones destroyed part of the line and made transit impossible. The branch to Buenavista was never started for lack of funds and after 1910 the idea was abandoned.[57] The section in operation between Puerto Bolívar and El Guabo covered 19 miles.

The line to Pasaje was eventually intended to reach Cuenca. Such a railway would bypass the mineral district of Zaruma, and would not fulfill the aspirations of the lojanos for a railroad directly to that southern city. Consequently, proposals by representatives of foreign mining interests were considered for construction of a railroad from Puerto Bolívar to Zaruma and Loja.

The first proposal of this type was in 1900 by George Mumford on behalf of the Central South America Company. The company offered to build a narrow-gauge line to Loja within 10 years and extend it to the Oriente within 25 years. In return the company would receive public lands, the right to operate a shipping line from the port, and the exclusive privilege of exploiting minerals within 30 miles of the line.[58] Since this contract did not lead to

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[57]Luis F. Cevallos, "Los ferrocarriles de El Oro. Su desarrollo y posibilidades de mantenimiento propio," Memorias del Primer Congreso Nacional de Ferrocarriles (Quito: Imprenta del Ferrocarril del Sur, 1949), p. 409.

[58]George D. Mumford, Propuesta en representación de la "Central South American Company." (Quito: Imp. "La Novedad," 1900); George D. Mumford, Bases para el contrato de un ferrocarril de la costa a Loja (Quito: Imprenta Municipal, n.d.).

construction of a line, a similar proposal was made just two years later by Pierre Chambost, a representative of the French business firm of Sauter Harlé, which had gold-mining interests in Ecuador. Chambost declared that he sought neither a government guarantee on interest payments nor an annual subvention but asked only for mineral rights and a grant of public lands.[59] His case was promoted in a pamphlet by "Unos Imparciales" who contended that this proposed railway would unite the provinces of El Oro, Loja, Azuay, and Cañar, thus "realizando el milagro de la resurrección, para la vida de la Industria, el Comercio y la Civilización de la mitad de la patria ecuatoriana."[60]

The contract was not considered by the senate before it adjourned that year, and obviously Chambost proceeded to change his mind about the feasibility of this great project as his representative, Louis Maulme, asked congress in the next year to consider a revised proposal.[61] A survey had shown that construction of a railroad faced many technical problems and would be no easy task. His new proposal was for a line only to Zaruma and included a request for financial assistance from the government.[62] In 1913 Chambost,

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[59] Pierre J. Chambost, Ferrocarril de la costa del Pacífico al distrito minero de Zaruma. Exposición y bases presentadas al congreso nacional (Quito: n.p., 1903).

[60] Unos Imparciales, Otro ferrocarril (Quito: Tip. de la Escuela de Artes y Oficios, 1903), p. 2.

[61] Louis Maulme, Ferrocarril al distrito minero de Zaruma (Guayaquil: Imprenta Mercantil, 1904).

[62] Ferrocarril de la costa del Pacífico a Zaruma. Reformas a la propuesta primitiva. (Quito and Guayaquil: Imp. de "El Tiempo," 1904).

through his representative Carlos van Isschot, further revised his plans, substituting for the railroad the proposal of an air route.[63]

In 1910 war between Ecuador and Peru seemed imminent as an indirect result of border claims. President Alfaro hastened to El Oro to command the troops he had mustered along the southern frontier. He found the Puerto Bolívar-Pasaje railway, which would be indispensable for the movement of troops, in such a deplorable condition that he immediately ordered repairs. The Guayaquil and Quito Railway Company was engaged to change the gauge of the line from 2 feet 5½ inches to 3 feet 6 inches so that rolling stock from the Ferrocarril del Sur could be used.[64] As war was avoided by mediation, these precautionary measures were not utilized. The threatened conflict did, however, emphasize the urgency of improved communication systems in the south for defense reasons.

Various plans were submitted to congress for a railway from Puerto Bolívar to a tributary of the Amazon. Gaston Thoret suggested a line along the Jubones valley that would bifurcate to Cuenca and to Loja and terminate in the Oriente at the confluence of the River Morona and the Amazon. This line, some 250 miles in length, would ensure Ecuador of the control of the left bank of the Amazon, and would constitute

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[63]Ecuador, Informe del Ministro de lo Interior, 1913, p. Lxiv.

[64]Luis Cevallos, "Los ferrocarriles," p. 410.

a viable transoceanic route. It would encourage colonization, and make Ecuador independent of the high tariff rates of the Panama Canal. Thoret proposed a national enterprise to build 35 kilometres a year with the money that the government would otherwise have to pay as interest on any internationally funded project.[65] Since it seemed to promote the nation's interests Thoret's proposal attracted fair support in the country, but it did not develop beyond the planning stage.[66]

A project that aroused even more enthusiastic reactions was one proposed by Julien Fabre, a Frenchman resident in Ecuador. Pío Jaramillo Alvarado and Agustín Cueva, two outstanding lojanos, stated in regard to Fabre:

> Hasta aquí no hemos podido dar con empresario de más prendas de seriedad y tenacidad en sus obras que el Sr. Fabre, quien gestiona a nombre de la Compañía Franco-Holandesa.[67]

In 1910 Fabre had attempted to establish European colonies in the Oriente. The project had been foiled by the Peruvians who intercepted the colonists on their way up the Amazon and forced them to return to Europe. However, the

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[65]Gaston Thoret, Proyecto de contrato para una empresa nacional de ferrocarriles (Quito: Imprenta "Minerva," 1910); Gaston Thoret, Proyecto de contrato para la construcción del ferrocarril Pacífico-Amazónico que partiendo de Puerto Bolívar llega al Río Amazonas y une las ciudades de Cuenca y Loja (Quito: Talleres de "El Comercio," 1912).

[66]J. Mora López, Arbitraje de España y Ferrocarril Bolívar-Amazonas (Quito: Imprenta "Minerva," 1911), pp. v-vi.

[67]Agustín Cueva and Pío Jaramillo Alvarado, Memorandum sobre el ferrocarril de Puerto Bolívar a Zamora (Quito: Casa Editorial de Ernesto C. Monge, 1913), p. 12.

Ecuadorean government, impressed with Fabre's sincerity, agreed to his proposal in 1911 for construction of the Ferrocarril Transamazónico. Fabre formed the Sindicato de Estudios Franco-Ecuatoriano and arranged for highly competent engineers to draw up a survey of the route. Comandant Pitault, an officer in the French Corps of Engineers, rejected the line through the Jubones valley that had been favoured by earlier surveyors, and adopted a more southerly route. The plans submitted by Fabre were agreeable to the government and a further contract was signed in 1913.[68]

The government of Leonidas Plaza Gutiérrez planned to put the railroad on a sound financial basis by allocating to it the revenue it hoped to derive from reviving the salt industry on Payana and other islands off the coast of El Oro. Unfortunately, however, a civil conflict and the European war brought the whole project to a halt. At this time of stress the government not only set aside the Fabre proposal but also failed to recompense the contractor for the surveys.[69] Many years of negotiations culminated in 1920 in the intercession of the French minister and the acknowledgement by the Ecuadorean government of its debt.[70]

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[68]Julien Fabre, Exposición que presenta al Hble. Señor Ministro de Obras Públicas el contratista del ferrocarril de Puerto Bolívar al Zamora (Quito: Tipografía y Encuadernación Salesianas, 1921).

[69]In "El Ferrocarril Transamazónico" (Nariz del Diablo, VIII, Nos. 29-33 [1966]), J. Augusto Murgueytio D. presents many details of the Fabre affair, and implies that certain government officials connived to cheat the contractor.

[70]Fabre, Exposición.

Then suddenly Fabre was forced to vindicate himself of accusations made against his work in a report to the Junta del Ferrocarril de Puerto Bolívar a Loja, Cuenca y Azogues.[71] This report occasioned a heated editorial in El Porvenir in defense of Fabre.[72] Still the government did not hand over any money. Although the government of President Tamayo elected to refer the matter to arbitration, the tribunal was quickly suspended. In 1925 an executive agreement was reached for payment, but in 1927 Fabre was still claiming his rights.[73]

Although decrees were issued in 1915 and 1916 to increase funds and authorize the establishment of a junta in Machala to administer the railroad, further proposals for construction of the transoceanic railway were not accepted until 1919. In that year the Sindicato Chileno-Ecuatoriano contracted to build the railways to Cuenca and Loja simultaneously within eight years and then continue to the Amazon. In return the company would receive mineral rights and the concession of public lands.[74] It has been suggested that this contract was rejected by congress on account of

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[71] Ibid.

[72] El Porvenir (Quito), September 21, 1921, p. 1.

[73] Julien Fabre, Memorandum que sobre los contratos que tiene celebrados con el Gobierno del Ecuador presenta el empresario francés Julien Fabre (Quito: Imprenta de Julio Sáenz Rebolledo, 1927).

[74] Sindicato Chileno-Ecuatoriano, Ferrocarril de Puerto Bolívar por Cuenca y Loja al Oriente (Quito: Tip. de la Escuela de Artes y Oficios, 1919).

"recelos de orden internacional."[75]

The Sibambe-Cuenca line was seen as one route to the coast for the southern highland provinces, but this did not seem to the people of Loja to provide an answer to their transportation problems. The cuencanos, on the other hand, did not favour the Fabre route, which led directly through Loja to the River Zamora, naming the branch to Cuenca as only a secondary project. The cuencanos organized the Junta Promotora del Ferrocarril por Jubones, and in 1919 the Azuay delegates pushed through congress a decree stipulating that the executive could only contract for a railroad that would pass along the Jubones valley and bifurcate to Cuenca and Loja.[76]

Feeling heightened in the two southern highland provinces of Azuay and Loja over the route of the railroad from Puerto Bolívar. As Agustín Cueva observed in his "Mensaje de la razón y de la fraternidad a las comarcas azuayas":

> Un problema de civilización nacional--el proyectado ferrocarril de Puerto Bolívar a Loja y a Cuenca--va convirtiéndose en un problema de incultura regionalista.[77]

The cuencanos objected to the more southerly route to Loja

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[75]Burbano de Lara, "La carretera Cuenca-Pasaje," p. 81.

[76]Pío Jaramillo Alvarado, Historia de Loja y su provincia (Quito: Casa de la Cultura Ecuatoriana, 1955), p.420.

[77]Agustín Cueva, "Mensaje de la razón y de la fraternidad a las comarcas azuayas," as quoted in Jaramillo Alvarado, Historia de Loja, p. 422.

on the grounds that it was strategically dangerous to build a line so close to the border, and they insinuated that the North American mining interests were manoeuvering for the southerly route, which would pass through Zaruma.[78] On the other hand the disadvantages of the Jubones route were: it would technically be more difficult to construct, it would pass through many areas of low-population density, and would face heavy competition from the Sibambe-Cuenca railway.[79]

In 1924 Manuel Navarro and Carlos Brown, both engineers trained in the United States, contracted to build a 2 feet 5½ inches gauge line from Puerto Bolívar to the Río Amarillo, in the canton of Zaruma. They would be paid a fixed price for each kilometre constructed. Some 37 miles were built, but on the death of Carlos Brown in 1928 the contract was rescinded.[80] Under government administration the line was continued as far as Piedras, a distance of 46 miles. The people of Loja in 1924 had expressed their apprehension that the tracks would not go beyond Zaruma. The line did not even reach Zaruma.

The fate of the other short railway in El Oro from Puerto Bolívar to Pasaje (Ramal Oriental) was little better

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[78]Jaramillo Alvarado, Historia de Loja, p. 424.

[79]Rafael Dávila G., and Manuel Navarro, "Estudio sobre el ferrocarril de Puerto Bolívar a Loja y Cuenca," Anales de la Universidad Central (Quito), XXXI, No. 247 (1923), 292-94.

[80]Vivar Cueva, "El comercio ecuatoriano," p. 65.

[81]Los Cantones Lojanos ante el Congreso de 1924 y el señor Presidente de la República (Loja: Tipografía "La Educación Integral," 1924), p. 26.

than that of the line to Piedras (Ramal Austral). Since the Ramal Oriental was probably operating at a loss in the mid-1920s, the government considered, but did not sign, a contract with the Southern Pacific Banana Corporation to take over the road and reconstruct it in exchange for the free carriage of bananas.[82] Both lines served local banana-growing districts at this time.

The railways were administered by the Ministry of Public Works from 1926 until 1944 when the Consejo Administrativo de Ferrocarriles y Transportes was created. Since both lines were of different gauge, they had to operate independently. The track and equipment deteriorated through lack of maintenance; in 1949 it was observed that "la mayoría del material existente es digno de figurar en un museo de antiguedades, or mejor aún, en un cementerio de hierros viejos."[83] Each line had only one locomotive and a few railcars in operation.[84] As with the other coastal lines, competition from the roads in summer months left the railways with scarcely any business. In fact, the wonder is that both lines were still alive, though in their final moments, in 1970.

The Sibambe-Cuenca Railway

The railroads from Puerto Bolívar to the interior were

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[82]U.S., Railways of South America, p. 142.

[83]Luis Cevallos, "Los ferrocarriles de El Oro," p. 410.

[84]Ibid.

not only the only projected outlets by rail to the ocean for the southern provinces. The short-lived administration of Antonio Borrero (1875-76) initiated a railway between Sibambe and Cuenca as an extension of the Ferrocarril del Sur. The president requested Modesto López and J. Bautista Dávila to draw up a survey for a road that could later serve as a railbed.[85]

Thirty years passed before the project was again seriously considered by the national government. It has been alleged that the government of Eloy Alfaro fostered this railway rather than the lines in El Oro in order to increase the income of the Ferrocarril del Sur.[86] Indeed, it was generally believed that the exploitation of the coal deposits near Biblián, on the way south to Cuenca, would obviate the necessity of importing fuel for the railroads.[87] In any case, in 1906 the people of Cuenca themselves presented a petition to President Alfaro for a line from Huigra to Cuenca. The petition was signed by many prominent citizens and pleaded:

> . . . que para salvar a estas Provincias de la completa ruina, que de cerca las amenaza y para que se ejecute el precepto de derecho que manda dar a cada cual lo que le corresponde en la distribución de los dones del progreso, se decrete o se contrate en el menor plazo posible, por la urgencia de la necesidad y sin esperar la reunión

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[85]Crespo Ordóñez, Historia del Ferrocarril del Sur, p. 26.

[86]Crespo Toral, La vialidad, p. 31.

[87]Junta Promotora del Ferrocarril del Sur, Manifiesto y reglamento (Cuenca: Imp. de Vélez Hnos., 1916), p. 2.

> de la Asamblea Constituyente, una línea férrea de derivación del Ferrocarril Central que parta al sur desde Huigra a Cuenca.[88]

The president responded by signing in the same year an ad-referendum contract with Edward Morley for a survey and construction of the line. Morley was an Englishman who had once cooperated with Archer Harman in the construction of the Ferrocarril del Sur. In 1907 congress approved the contract and designated funds for the project.[89]

The contractor had agreed to build a 93-mile railway from Huigra to Cuenca in return for certain mining privileges and the right to work the line for 75 years. He had further committed himself to forming The Huigra and Cuenca Railway Company within 19 months in either the United States or England. This proved impossible.[90] The credit of Ecuador abroad was such that he could not muster sufficient financial support.[91] President Alfaro blamed the opposition in Congress for this failure to find foreign financing.[92] Since Morley had not started construction by 1913, the government terminated his contract.

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[88]As quoted by J. Augusto Murgueytio D. in "El ferrocarril Sibambe-Cuenca: páginas de su historia." Nariz del Diablo, VII, No. 14 (1965), 35.

[89]Ibid., pp. 35-36.

[90]Ibid.

[91]U.S., Railways of South America, p. 150.

[92]Eloy Alfaro, Mensaje del Presidente de la República al Congreso Nacional sobre construcción de ferrocarriles a Ibarra y Cuenca (Quito: Imprenta Nacional, 1909), p. 5.

Within the next year congress accepted a proposal from the German company Orenstein & Koppel-Arthur Koppel, which also engaged to build the Ferrocarril del Norte. At the time the ability of the company to complete the project was unquestioned.[93] The Minister of the Interior in 1913 affirmed:

> La casa Koppel es poderosa y honorable y cuenta con influencias y medios suficientes para cumplir lo convenido en condiciones las más convenientes para la buena realización de los trabajos.[94]

Despite such confidence, the efforts of the company to carry out the work inevitably slackened after the outbreak of war in Europe,[95] and the line was not to be completed within the duration of the contract.

The company engineers surveyed the region to discover the best junction for this line with the Ferrocarril del Sur. At the request of the Junta de Obras Públicas y Mejoras del Azuay, however, the government ordered work to begin on the route from Huigra to Cuenca. The shortest route to Guayaquil was the main objective of the junta at that time.[96] When it became apparent that this route would involve many technical problems which would slow construction considerably, the junta revised their request in favour of

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[93]U.S., Railways of South America, p. 150.

[94]Ecuador, Informe del Ministro de lo Interior, 1913, p. Lxvi.

[95]U.S., Railways of South America, p. 150.

[96]Murgueytio, "El Ferrocarril Sibambe-Cuenca," p. 37.

a line from Sibambe rather than from Huigra.[97] The report of the engineers had indicated that the line from Sibambe would be shorter and less costly. Then the people of Chunchi asked that the line pass through their town. The company informed the government that this was possible and even more economical, but only if the maximum gradient permitted was raised to 5 per cent. The government agreed to the request.[98]

Controversy over the route was to endure several years. Edward Morley and some associates insisted that Orenstein & Koppel had, in fact, chosen a more expensive route in order to make a larger profit since the firm was being paid a percentage above costs of construction.[99] They proposed a return to the Huigra route. Moved by the fear that the 32 kilometres of railbed thus far completed from Sibambe would be abandoned, a member of the junta for the line retaliated:

> Tal campaña no puede tener otro propósito que el ingrato de descorazonarnos a los azuayos y de apagar el entusiasmo del Gobierno, encendido como nunca en estos días.[100]

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[97]Junta de Mejoras y Obras Públicas de Cuenca, Informe sobre la ejecución de los trabajos del ferrocarril de Huigra a Cuenca (Cuenca: Tip. Progreso, 1915).

[98]Murgueytio, "El Ferrocarril Sibambe-Cuenca," p. 37.

[99]Edward Morley and H. Pizarro, Comparación entre las líneas férreas Huigra-Cuenca y Sibambe-Cuenca (Guayaquil: Imp. Progreso, 1919).

[100]O. Cordero Palacios, El trazado del ferrocarril de Cuenca (Cuenca: Impreso por Manuel J. Vintimilla, 1919), p. 1.

Julio Rosenstock, as chief engineer of the project, also came to the defense of the Sibambe-Cuenca route. He systematically refuted many of the contentions made by those who wished to start afresh from Huigra.[101]

The funds for this project were occasionally diverted by the government to other purposes.[102] As a consequence, the representatives from Azuay persuaded the legislature in 1915 to hand over control of the funds for the project to the Junta de Mejoras y Obras Públicas del Azuay.[103] President Plaza Gutiérrez, an antagonist of decentralization of funds, counteracted this move by issuing an executive decree to keep the funds under government control.[104] Thereupon, some cuencanos, determined to keep local enthusiasm high, organized a Junta Promotora del Ferrocarril del Sur.[105]

President Plaza had said, "Yo daré ferrocarril a Cuenca con o sin contrato."[106] The dispute over the route, the scarcity of funds, and the effects of World War I made

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[101]Julio Rosenstock, Réplica a la comparación entre las líneas férreas Huigra-Cuenca, Sibambe-Cuenca (n.p.: Tip. "Alianza," 1919).

[102]Ecuador, Informe del Ministro de lo Interior, 1913, p. Lxvi.

[103]Junta Promotora del Ferrocarril del Sur, Manifiesto, p. 4.

[104]Leonidas Plaza Gutiérrez, Ferrocarril de Sibambe a Cuenca (Quito: Imprenta de "El Quiteño Libre," 1915).

[105]Junta Promotora del Ferrocarril del Sur, Manifiesto.

[106]As quoted in Delfín Orellana, Estudios monográficos del Ecuador (Quito: Escuela Tipográfica Salesiana, 1929), I, 55.

it impossible for him to keep his word. In addition, not enough labourers could be enticed to the area. One report suggested that to remedy the shortage, workers should be paid more and priests in Azuay should inform their parishioners that the climate in the region of construction was healthy.[107]

Once the Orenstein & Koppel contract had ended in 1918, construction was administered by the government through the Junta de Mejoras y Obras Públicas del Azuay. The junta, in fact, controlled finances and directed the work with the approval of an inspector general named by congress.[108] Construction was gradual at best. One commentator suggested that the line would not reach Cuenca for another 20 years if the slow pace of work continued.[109] This was to prove an optimistic estimate.

The junta asked the executive to find a contractor to complete the project.[110] After some delays the government accepted a proposal by the Compañía Constructora del Azuay. This company was composed of a group of financiers from

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[107] Informe acerca del estado de los trabajos de construcción del ferrocarril de Huigra a Cuenca durante la primera quincena de febrero de 1917 (Cuenca: Imp. por Manuel J. Vintimilla, 1917), pp. 18-19.

[108] Ecuador, Informe del Ministro de Obras Públicas (Quito: 1921), p. Lxx.

[109] El Ecuador Comercial, II (June, 1924), 25.

[110] Informes sobre los trabajos de construcción del ferrocarril Sibambe-Cuenca, 1921-22 (Cuenca: Talleres de "El Progreso," 1922), p.v.

Guayaquil and Cuenca.[111] Within a very short time, however, the contract was declared void by the Junta del Gobierno Provisional of 1925. In 1926 the government came to an agreement with J.C. Dobbie and W.C. Simmons to continue the work. Construction proceeded more rapidly, and although the contract ended on a note of discord, the section between Sibambe and Tipococha was almost ready for service. Trains ran, although at a great loss, to a few miles before Tipococha.[112] Through the efforts of military engineering batallions and mingas the line reached El Tambo in 1930.[113]

Lack of finances, more than any other reason, dragged out further construction over many years.[114] In 1945 service was inaugurated in Biblián, in 1948 in Azogues. Not until 15 years later was the project revived and the tracks laid to Cuenca by 1964.[115]

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[111] El Ecuador Comercial, III, No. 2 (1925), 69.

[112] Murgueytio, "El Ferrocarril Sibambe-Cuenca," pp. 47-48.

[113] Ibid., pp. 50-53.

[114] Ibid., pp. 56-64.

[115] Ibid.

CHAPTER XII

PENETRATION OF THE ORIENTE

Exploitation of the resources in the Oriente region appeared to some Ecuadoreans as an answer to the economic problems of the country.[1] They believed that once roads were built European immigration would follow, and colonists would cultivate the fertile expanses and so show the world that "allí están real i efectivamente los Campos Eliseos i el jardín de las Hespérides fingidas por los poetas."[2] The idea of a transoceanic route, from the Pacific through the Oriente and along the Amazon to the Atlantic, also inspired visions of prosperity for the nation.[3]

There were more sober views of the potential of the region. The Minister of the Interior in 1849 suggested that it was an error to invest in roads to an almost uninhabited area when major routes were still in a state of abandonment.[4] Theodore Wolf advocated thorough scientific

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[1]Francisco Andrade Marín, Viaje a la región oriental del Ecuador (Quito: Imprenta de Tipos de M. Rivadeneira, 1884), pp. 3-7.

[2]Rafael Villamar, Oriente (Quito: Tipografía de F. Bermeo, 1876), p. 10.

[3]Gran vía de comunicación entre el Pacífico y el Atlántico por el Amazonas (Lima: Imprenta de "El Comercio," 1864).

[4]Ecuador, Exposición del Ministro del Interior, 1849, p. 22.

studies "para refrenar un poco la fantasía exaltada."[5] Similarly, the Junta Nacional Pro-Oriente declared in 1948 that one of its aims was the repudiation of unrealistic propaganda.[6]

Apart from economic considerations, the opening of routes from the Sierra into the Oriente was essential to encourage settlement and ensure national sovereignty over this vast area. For well over a century after independence, title to much of the Oriente was in dispute between Ecuador and neighbouring republics. By the Rio de Janeiro Protocol of 1942--which Ecuador has since rejected--the nation lost control over most of the disputed territory. The country had largely based its case on historical documents, as in fact it had too few settlements and communication routes to make any serious claim to the principle of uti possidetis.[7]

Trails

In the last century of colonial rule, the Spaniards had made no concerted efforts to penetrate the Oriente, and

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[5]Wolf, Geografía, p. 209. In 1888 some engineers proposed a national scientific society to study the Oriente (Antonio Sánchez, et al., Nuestro Oriente [Quito: Imprenta del Clero, 1888]). The project was rejected by congress (Alejandro Emilio Sandoval, Caminos al Oriente [Latacunga: Imprenta del Colegio Vicente León, 1903], p. 8).

[6]Junta Nacional Pro-Oriente, Exposición que la Junta Nacional Pro-Oriente presenta al H. Congreso Nacional (Quito: Talleres Gráficos Nacionales, 1948), pp. 5-6.

[7]For information on the boundary dispute with Peru see L.A. Wright, "A Study of the Conflict between the Republics of Peru and Ecuador," Geographical Journal, XCVIII, Nos. 5-6 (1941), 253-72, and David H. Zook, Jr., Zarumilla-Marañón: The Ecuador-Peru Dispute (New York: Bookman Associates, 1964).

during the nineteenth century little improvement was seen in the condition of the trails. Alfred Simson, who travelled extensively in the region, defined the term "road" in the Oriente as "nothing more than the line of route from one place to another," and he added:

> Bare tracks there are often none, and the traveller must make his way, with such casual Indian guides as he may be able to procure, climbing and forcing himself through the pathless forests, toiling foot-sore along the rough beds of streams, and crossing the rivers as best he may without bridges; and where the rush of the waters is too precipitate, and the bed too rough, without even canoe or raft.[8]

Villavicencio advised that a guide was indispensable in the region as the Indians followed no definite paths but were simply directed by the course of the sun and their instinct.[9]

One particularly ambitious project was advanced during the nineteenth century to develop the Oriente. General Victor Proaño, a soldier, teacher, revolutionary, and explorer, proposed an interoceanic route from Guayaquil along the River Morona and the Amazon to the Atlantic.[10] Banished by García Moreno to the area of Macas, Proaño had explored the area to the Amazon.[11] On his return to Quito in 1865, he described his expeditions, and received permission from

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[8]Alfred Simson, Travels in the Wilds of Ecuador and the Exploration of the Putumayo River (London: Sampson Low, Marston, Searle and Rivington, 1866), p.4.

[9]Villavicencio, Geografía, p. 150. According to Theodore Wolf (Geografía, p. 586), Villavicencio's work was the most reliable source of information on trails in the Oriente in the nineteenth century.

[10]Jaramillo Alvarado, Tierras de Oriente, p. ix.

[11]Gran vía de comunicación, p. 9.

congress to open a route. With García Moreno again in power in 1869, Proaño left the country and participated in a Peruvian expedition to the Amazon basin. The Peruvians gave high praise to the work of Proaño, but political pressures in Ecuador prevented him from carrying out his plans for colonization and roadbuilding.[12] Although he continued to propound his ideas and to refute the criticisms made by Nicolás Martínez, the Governor of Tungurahua province, he could not interest the government in the project.[13] However, a half century later the idea of the Vía Proaño was revived by the Ecuadorean geographer Jorge Villacrés Moscoso.[14]

Another serious attempt to improve a transportation route into the Oriente was made by Francisco Andrade Marín. As Governor of the province of Oriente, in 1884 he established a colony along the River Napo and attempted to build a good bridle path from Quito through Papallacta to Baeza.[15] In order to maintain the trail he insisted upon the

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[12]Eudófilo Alvarez, Conferencia sustentada en el colegio "Vicente Rocafuerte" sobre el Oriente ecuatoriano el 12 de octubre de 1914 (Quito: Imprenta y Encuadernación Nacionales, 1915), pp. 66-67.

[13]Victor Proaño addressed Carta en defensa de la ciencia geográfica, de la honra nacional, de la propiedad moral y de la "vía Proaño," (Quito: Imprenta de Juan P. Sanz, 1884) and Para la historia (Guayaquil: Impr. del Comercio, 1876) to Nicolás Martínez. Segunda Carta (Lima: Imprenta de "El Comercio," 1896) is a letter advancing his case addressed to President Antonio Flores.

[14]Jorge W. Villacrés Moscoso, La gran vía interoceánica ecuatoriana a través del Amazonas (Guayaquil: Edit. de la Universidad, 1952).

[15]Andrade Marín, Viaje, p. 10.

establishment of tambos, but it was in vain as the colonists, "aislados de toda comunicación," abandoned the area.[16]

Public interest in access routes to the region increased after the turn of the century. In each city along the Sierra juntas and committees were organized to foster a route to a navigable tributary of the Amazon. These groups published pamphlets, propounding the reasons why a particular route merited national attention.[17] Usually it was left to these local groups to construct routes.

Heated controversy, fanned by local interests, arose in 1903 over a route from Latacunga to the Napo. Juan José Fierro, who appears to have been a woodsman with a sound knowledge of the paths of the Oriente, was contracted by the Junta Directiva del Camino al Oriente to chart a route to the east from Latacunga.[18] His efforts were condemned in a report by the engineer Lino María Flor, who claimed that Fierro had failed to use any scientific instruments and had completely ignored all technical requirements.[19] Flor also heaped personal abuse upon Fierro, ridiculed his

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[16]Constantino Fernández, Obras son amores, 2nd ed. (Ambato: Imp. de Salvador R. Porras, 1888), p. 15.

[17]Examples of this type of literature are: Junta Orientalista de Cayambe, Proyectos de vialidad hacia el Oriente (Quito: Tipografía de la Escuela de Artes y Oficios, 1933), and Miguel Vega Muñoz, Por el Oriente azuayo (Cuenca: Tip. Alianza, 1927).

[18]Juan José Fierro, Caminos al Oriente (Loja: Tipografía Republicana, 1903), p. 1.

[19]Lino María Flor, Caminos al Oriente: opinión y solicitud (Quito: Maquinaria y Tipografía de J. Sáenz R., 1903), pp. 7-13.

literary attainments, and described him as "más montaraz que los más salvajes del Oriente, y más salvaje que los más salvajes de todas partes."[20] Flor then made a proposal to the junta for work on a route he had explored.[21]

On account of Flor's report the junta hesitated to pay Fierro for the survey. Instead the junta contracted with General Manuel Franco to carry out work on another route from Latacunga.[22] Franco found support for his route from Alejandro Emilio Sandoval.[23] Luis Martínez entered the foray, and sided with Flor, condemning the route from Latacunga in favour of a road from Ambato to the River Pastaza.[24] Despite these intricate polemics, no good road from Latacunga was built.

Some efforts to explore and promote routes were of more value. Pío Jaramillo Alvarado, appointed the first Director of the Oriente in 1920, charted a route from Ambato through Baños to the River Napo.[25] Previously the River Pastaza or the River Curaray had been the destination of the route from Ambato.[26] At the end of the decade, Father

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[20]Ibid., p. 19.

[21]Ibid., pp. 22-23.

[22]Fierro, Caminos al Oriente, pp. 13-17.

[23]Alejandro Emilio Sandoval, Caminos al Oriente (Latacunga: Imprenta del Colegio Vicente León, 1903).

[24]Luis A. Martínez, Caminos al Oriente (Ambato: Imp. Comercial de Salvador R. Porras, 1903).

[25]Pío Jaramillo Alvarado, "El nuevo camino al Napo," Boletín Mensual de Obras Públicas, V, Nos. 47-55 (1940), 28-34.

[26]Ibid., p. 32.

Albino del Curto, a Salesian missionary, opened a route in accord with a government contract from Cuenca to Pan and Méndez.[27] In the 1930s Manuel Rengel laboured to promote a route from Cuenca through Gualaceo and Limón to the River Santiago.[28]

Jaramillo Alvarado, who has probably published more on the Oriente than any other Ecuadorean, named three routes into the Oriente as being of national urgency. These led (1) from Ambato through Baños to Mera, (2) from Cuenca through Pan to Méndez, and (3) from Loja through Zamora to the River Marañón.[29] He believed that available finances should be concentrated on these major routes, but without abandoning the trails from Tulcán to Pun, from Quito to Papallacta, from Cuenca to Gualaquiza, and from Riobamba to Zuña.[30]

Only one of these routes was to become an all-weather road by mid-twentieth century, when Fernández Alonso said of the road system into the Oriente: "A excepción de la carretera Ambato-Baños-Puyo, que penetra más de 100 km. hacia el interior, el resto son pequeños ramales sin importancia".[31]

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[27]G. Humberto Cevallos, "La provincia oriental Santiago-Zaruma" Boletín Mensual de Obras Públicas, III, Nos. 26-31 (1938), 62.

[28]Manuel E. Rengel, La carretera sur-oriental (Cuenca: Tip. Alianza, 1941).

[29]Jaramillo Alvarado, Tierras de Oriente, p. ix.

[30]Ibid., p. xii.

[31]Fernández Alonso, "Las comunicaciones en un país andino," pp. 435-36.

The highway from Ambato to Mera was built in part by Leonard Exploration Company between 1921 and 1933 in return for oil exploitation rights.[32] Another company exploring for oil in the region between 1937 and 1950, Shell Company of Ecuador, spent large sums on the maintenance of the road.[33] The final impetus to construction was given by the Ministry of Defense in charge of the project from 1938[34] and by 1946 the section from Baños to Puyo could be traversed by car.[35] The route from Ambato was also chosen for the one railroad to be constructed eastwards from the Sierra.

Ferrocarril al Curaray

A railroad into the Oriente was suggested by General Proaño. According to Jaramillo Alvarado who examined Proaño's original survey, this route led from Riobamba through Baños thwards the River Morona.[36] In the twentieth century proposals were made for a railway from Puerto Bolívar through the southern provinces into the Oriente; however, as was shown in Chapter XI, none of these projects

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[32] Inauguración de la carretera Baños-Mera-Shell Mera (Quito: Imprenta del Ministro de Gobierno, 1943), p. 13.

[33] Hegen, Highways into the Upper Amazon Basin, p. 132.

[34] Inauguración de la carretera Baños-Mera-Shell Mera, p. 13.

[35] Pío Jaramillo Alvarado, "El camino Baños-Puyo: eje central de penetración al Oriente amazónico," in Inauguración de la carretera al Puyo (Quito: Talleres Gráficos Nacionales, 1946), p. 9.

[36] Jaramillo Alvarado, Tierras de Oriente, p. 47.

reached beyond the boundary of El Oro province. The only line to be constructed towards the Oriente started in Ambato and was planned to pass through Baños to the River Curaray. In 1900 President Alfaro discussed such a project with Archer Harman, who drew up a preliminary proposal but did not pursue the matter.[37]

The most ardent promoters of the Ferrocarril al Curaray were Luis Martínez, a native of Ambato and Minister of Education and Public Works, and the Dominican Father Enrique Vacas Galindo.[38] In 1904 Martínez formed the Junta Promotora del Camino al Oriente,[39] and a decree allocated funds for the project and provided that the junta would direct construction. Martínez was sent to the United States in search of competent engineers to carry out a survey. He reached an agreement with Charles Moore, who in mid-1906 presented a preliminary plan for a line as far as the River Arajuno.[40] A beginning to the railbed was planned by the junta, but the political upheaval of 1906 halted work and the funds for the project were temporarily suspended.[41]

Later in 1906 the junta signed an ad-referendum contract with Moore and Walter Fox for construction of the

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[37]J. Augusto Murgueytio D., "El ferrocarril oriental al Curaray," Quito, 1966, p. 2. (Typescript. Later published in Nariz del Diablo, VIII, No. 26 [1966]).

[38]Jaramillo Alvarado, Tierras de Oriente, p. xix.

[39]Junta Promotora del Camino al Oriente, A la nación (Quito: Imp. de "El Comercio," 1907), p. 1.

[40]Ibid., p. 7.

[41]Ibid., p. 8.

railway to the River Arajuno within four years. The government would issue bonds to the sum of $3,330,000 at 6 per cent interest, and also hand over public lands alongside the line.[42] Contrary to the wishes of the junta, in the same year the government signed an ad-referendum contract with Abelardo Moncayo, and yet another in 1907 with the Conde de Charnacé in return for extensive public lands.[43] The junta insinuated that Moncayo and the Count were acting in collusion but Moncayo denied this.[44] In later years Jaramillo Alvarado, after a close examination of the contracts, concluded that the Moncayo proposal was probably most adapted to the reality of the Ecuadorean situation.[45] All three contracts were doomed to failure, however, by the inability of the contractors to find credit abroad.[46]

The Ferrocarril al Curaray was the subject of constant debate. The newspaper El Tiempo fought against the project while El Telégrafo defended it.[47] Martínez and Father Vacas Galindo promoted the railway and the route in public

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[42] Ibid., pp. 8-10.

[43] Ibid., pp. 15-33.

[44] Abelardo Moncayo Andrade, Problemas del Oriente ecuatoriano (Quito: El Tiempo, 1908).

[45] Pío Jaramillo Alvarado, Ferrocarriles al Oriente (Quito: Impr. y Encuadernación de la "Editorial Quito,"), p. 28.

[46] Ibid., p. 22.

[47] Augusto Arias, Luis A. Martínez (Quito: Imprenta del Ministro de Gobierno, 1937), p. 40.

lectures.[48] Martínez pointed to the economic advantages the line would bring to the entire country.[49] Vacas Galindo stressed that the route was preferable to others since it was well beyond the area in dispute with Peru and, furthermore, surveys had already been carried out.[50] Some doubted the value of the railroad; they questioned whether a road, which would be less expensive, would not serve the country better.[51] One writer suggested that a halt should be made to work on the line from Ambato to the River Curaray while a commission studied an alternative route along the River Paute to the River Morona.[52] The Curaray and Napo rivers were of varied depth according to season and adaptable to only shallow-draught vessels, whereas the Morona seemed to offer better navigational facilities.[53] Another writer suggested that at least two lines should be built, one to

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[48]Luis A. Martínez, "Conferencia dada en junio de 1905," in El ferrocarril al Oriente ante el congreso de 1908 (Quito: Imp. de "El Comercio," 1908); Enrique Vacas Galindo, Conferencia acerca de la importancia del ferrocarril al Oriente (Quito: Imprenta Nacional, 1905).

[49]Martínez, "Conferencia," p. 8.

[50]Vacas Galindo, Conferencia, pp. 4-5.

[51]Juan Elías Albán, Proyecto de ley especial de regimen administrativo interior para la región oriental (Quito: Imprenta del Clero, 1905), p. 42; Ferrocarril y carretera desde Riobamba hasta el río Morona por el pueblo de Pungalá, el río Sangay y Sevilla del Oro; comunicación del Pacífico con el Atlántico (Riobamba: Imprenta y Librería Nacional de T.G. Zapatier, 1912).

[52]D. Emilio Arévalo, El problema del ferrocarril al Oriente ecuatoriano (Quito: Imprenta Nacional, 1907), p. 36.

[53]Ibid., pp. 13-15.

the Curaray, and another further to the south.[54]

Construction had still not started in earnest by 1911, but in that year General Plaza Gutiérrez was reelected president and the project was revived and the junta reorganized.[55] Only a small part remained of the funds which should have been gathered for the project over the years since the government had borrowed the money for military expenditures.[56] New funds were assigned by laws in 1912 and 1913, and a second contract was agreed with Moore and Fox for the direction of construction.[57]

The engineers charted a line along the Patate valley towards Baños, but the town of Pelileo clamoured for the railway to pass through their town.[58] This would involve a steep climb and add length to the line. Such a change was contrary to sound engineering principles, but political considerations predominated.[59] In 1922 the line was put into service to Pelileo, a distance of about 21 miles. According to Jaramillo Alvarado, the detour to Pelileo "mató el ferrocarril al Oriente, convirtiéndolo en un ferrocarril

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[54]A.T. Maldonado, Exposición elevada al señor encargado del mando supremo de la república, General Dn. Eloy Alfaro (Guayaquil: Imprenta La Reforma, 1906).

[55]U.S., Railways of South America, p. 154.

[56]Ecuador, Registro Oficial, May 11, 1910, p. 210; March 6, 1911, p. 275.

[57]U.S., Railways of South America, p. 154.

[58]Jaramillo Alvarado, Ferrocarriles al Oriente, p. 58.

[59]Murgueytio, "El ferrocarril oriental al Curaray," p. 20.

provinciano de Ambato a Pelileo."[60]

A contract was signed with Leonard Exploration Company in 1923 to continue the line to Baños, but a modification in 1926 permitted the company to construct a road in lieu of the railroad.[61] The railway was allowed to deteriorate while the road from Ambato to Pelileo was improved.[62] Consequently, traffic by rail was minimal.[63] Within a decade of construction of the line to Pelileo, it was proposed to transform the railroad into a road.[64] Some sprang to the defense of the line, claiming that since the project had never been completed, one section (Ambato-Pelileo) could not be expected to operate at a profit.[65] Nevertheless, the fate of the line was sealed by 1939. Service was suspended and the rails torn up for use on the Sibambe-Cuenca railroad.[66]

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[60]Jaramillo Alvarado, Tierras de Oriente, p. 13. For an account that favours the Pelileo detour, see Dario Guevara, Puerta de El Dorado: monografía del Cantón Pelileo (Quito: "Editorial Moderna," 1945), pp. 218-30.

[61]Ecuador, Informe del Ministro de lo Interior (Quito, 1926-30), p. 45.

[62]Ibid.

[63]Ecuador, Informe del Ministro de Obras Públicas, 1931-32, p. 7.

[64]Ecuador, Informe del Ministro de Obras Públicas (Quito, 1932-33), p. 14.

[65]Victor M. Garcés, "¿Cabe destruir una obra de progreso?" Amazonia (Ambato), I, No. 2 (1936), 14-15.

[66]Murgueytio, "El ferrocarril oriental al Curaray," p. 21.

CHAPTER XIII

ALONG THE SIERRA: THE PAN AMERICAN HIGHWAY

The road running south from Tulcán along the entire length of the Sierra in Ecuador to Macará has become known as the Pan American Highway. For almost a century after independence only a middle section of the road, between Quito and Riobamba, was of real concern to the national government.[1] The northern and southern stretches were given little attention.

The Incas had communicated with the northern reaches of their empire by this road running south to north between the ranges of the Andes, and the Spaniards in the Kingdom of Quito had been encouraged to maintain the route to some extent by administrative ties with the Viceroyalty of Peru and later with the Viceroyalty of New Granada. But the sea-borne, mercantilistic Spanish empire came to recognize Guayaquil as one of the more advantageous ports on the west coast of South America. Trade grew between the capital of the audiencia and the port city. Even travel to the vice-regal capitals was found to be easier by way of Guayaquil and a sea journey, rather than directly overland.[2] After

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[1]This part of the highway between Quito and Riobamba has already been discussed as the Carretera García Moreno in Chapter VIII.

[2]See above, Chapter II, p. 19.

the dissolution of Gran Colombia, the ties with the northern and southern republics were greatly weakened. Ecuador now desperately sought outlets from the Sierra to the sea. The Congress of 1846 agreed that "uno de los primeros deberes de la administración es cuidar de que se mejoren los caminos públicos, y se abran los que conducen a los puertos de mar."[3] No provision was made in the law for improvement of the highway along the Sierra.

The northern province of Carchi and the southern province of Loja were almost cut off from communication with the central provinces. Imbabura and Azuay were connected with the capital only by the roughest of trails. Juan Menten reported in 1892: "El comercio con las últimas provincias del Sur es casi imposible y más que dificultoso el que hay con las del Norte."[4] Consequently both regions sought "su única salvación en los caminos a la Costa, considerando como secundaria la unión con los demás provincias."[5]

For the northern provinces the road or railroad to Esmeraldas offered hope for an end to their isolation. The south looked for routes that would bear westwards to Puerto Bolívar or Guayaquil. However, while all-year-round routes to the ocean were not available, the frontier provinces

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[3]Ecuador, Colección de leyes, 1846, p. 405.

[4]Ecuador, Informe del Ministro de lo Interior, Part 2, 1892, p. 3.

[5]Ibid., p. 16.

resorted to trading with the neighbouring republics. Commerce from Imbabura and Carchi made its way into Colombia as far as Pasto,[6] and most of the commerce of Loja was with northern Peru.[7]

The trails to the frontiers, like most other trails in Ecuador, were in very poor condition prior to the road-building era of the 1920s. They were, however, shorter than the equally difficult routes to the coast. Few attempts were made to improve the frontier roads. A law in 1865 ordered work to begin on the road from Loja to Macará, a town on the border, but six years later the government admitted that the work had been suspended "por las dificultades e inmensos gastos que exige la empresa," and proceeded to invest the money in a road to the coast.[8] In 1878 funds were again assigned to the road south to Macará, but thirteen years later a traveller said that he had never seen "such a frightful road."[9]

Some attempts were made to improve the road north from Quito to Colombia in the last decade of the nineteenth century. In 1892 Congress realized "que la falta de buenos caminos tiene en deplorable estado la industria y comercio

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[6]Veatch, Quito to Bogota, p. 31.

[7]Ecuador, Colección de leyes, 1878, p. 69.

[8]Ibid., 1871, p. 302.

[9]Intercontinental Railway Commission, Vol. III: Report of Surveys and Explorations made by Corps No. 3 in Ecuador and Peru, 1891-1892 (Baltimore: Press of A. Hoen & Co., 1896), p. 79.

de Imbabura," and so assigned funds to roadwork in the province.[10] Five years later money was allocated for a road to the northern frontier to bring the people of Carchi into communication with the rest of the republic, and in 1897 the Junta Directiva undertook to repair this road to Tulcán.[11]

These efforts do not seem to have brought lasting improvements. Arthur Veatch, who travelled from Quito to Bogotá some years later, found that the journey from Quito to the northern frontier, covering only some 133 miles, took up to six days.[12] The trails were for the most part in such poor condition that mules were preferred to horses as they were more sure-footed and tougher.[13] Veatch remarked: "Owing to the lack of adequate means of communication, the development of this rich northland of Ecuador has apparently remained stationary for at least 50 years."[14]

Interest focused on the route along the Andes in the last decade of the twentieth century when two engineering corps of the Intercontinental Railway Commission arrived in Ecuador to conduct surveys for a line through the country. An inter-American railway had first been proposed in 1880 by the United States Senator David Davis of Maryland. Four

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[10]Ecuador, Colección de leyes, 1892, p. 119.

[11]Ibid., 1897, p. 217.

[12]Veatch, Quito to Bogotá, p. 30.

[13]Ibid., p. 35.

[14]Ibid., p. 36.

years later the United States had sent a commission to Latin America to discuss the project with the various nations, and at the First Inter-American Conference in Washington in 1889 it had been agreed that a railway commission should study a route and the problem of financing it.[15]

Between 1891 and 1893 the two engineering corps in Ecuador charted a route along the highlands from Tulcán through Ibarra, Quito, Latacunga, Cajabamba, Cuenca, and Loja, to Jaén.[16] The commission, realising that the greatest challenge to such a line would be the delivery of material from the sea coast over the mountains to the plateau, admitted: "It is almost essential that at certain intervals there should be railroad feeders from the coast."[17] In fact, Ecuador wanted the lateral lines from the coast far more than the Pan American Railroad.

The line surveyed by the commission was not the only route suggested for the Pan American Railroad. The Argentinian Juan Briaño proposed a line far to the east from Bogotá to Iquitos,[18] and the North American Verne L. Havens

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[15]Jerrold M. Holmes, "The Pan American Highway," Journal of Geography, LXII, No. 4 (1963), 145-46.

[16]Intercontinental Railway Commission, Vol. II: Report of Surveys and Explorations made by Corps No. 2 in Costa Rica, Colombia and Ecuador, 1891-1893; Vol. III.

[17]Intercontinental Railway Commission, Vol. III, p. 44.

[18]Juan Briaño, "Nuevas orientaciones del ferrocarril internacional panamericano," in Luis Ernesto Denegri, El Ferrocarril Panamericano (Lima: Imprenta Torres Aguirre, 1928), pp. 15-42.

favoured a route in the middle passing through the Oriente of Ecuador.[19] Havens remarked on the route through the Sierra that the commission had traced:

> El ferrocarril proyectado de Colombia a Quito, Ecuador, es hoy problema regional de un territorio que ofrece pocos alicientes a la inmigración, escasa esperanza de tráfico y toda seguridad de costos muy elevados para su manejo. De Quito al Perú la esperanza de tráfico es más remota y mayor la seguridad de gastos cuantiosas.[20]

Although a permanent commission was established for the Pan American Railway and the project was discussed at inter-American conferences, the idea of the railroad gradually gave place in the 1920s to the Pan American Highway.[21] The First Pan American Highway Congress met in Buenos Aires in 1925 as a permanent institution. At the second congress in 1929, the idea of one road built especially as the Pan American Highway was replaced by a plan to develop and link the highway systems already in use.[22] Efforts were concentrated on the northern part of the highway linking Central America, Mexico, and the United States, "contando con que otros elementos y la acción del tiempo han de dar impulso a la sección sudamericana del proyecto

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[19]Verne L. Havens, "Memorandum," in Denegri, El Ferrocarril Panamericano, pp. 53-56.

[20]Ibid., p. 54.

[21]Carlos P. Anesi, La Carretera Panamericana (Buenos Aires: Compañía General Fabril Financiera, 1938), pp. 19-22.

[22]Ibid., pp. 28-29.

original."[23] The completion of the road in Ecuador and some other countries was going to require much time.

The roadbuilding fervour of the administration of President Ayora made the Pan American Highway a reality for the northern provinces. In 1926 road construction began between Ibarra and Tulcán.[24] A technical commission, which was instructed to examine possible routes, proposed a westerly course through El Angel as the least expensive and shortest route.[25] The towns to the east, fearing isolation, decided to undertake themselves the improvement of the trail through Bolívar, San Gabriel, and Huaca. Working in *mingas* of up to 7,000 workers, they made the trail into a good roadway.[26] Subsequently, governments proclaimed both roads alternative routes for the Pan American Highway; similarly, between Quito and Ibarra alternative routes existed for some time.[27] The road from Tulcán along the Sierra to near Riobamba, and down the Andes to Babahoyo, was inaugurated for automobile traffic on the centenary of the republic

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[23] *Ibid.*, p. 29.

[24] Olmedo Jervis, "Las rutas carrozables del norte del país," *Boletín Mensual de Obras Públicas*, I, Nos. 3-4 (1936), 30.

[25] Ecuador, Dirección General de Obras Públicas, *Informe sobre las varias rutas estudiadas para el trazado de la carretera Ibarra-frontera norte* (Quito: Talleres Gráficos de El Comercio, 1928), p. 11.

[26] Jervis, "Rutas carrozables," p. 30.

[27] Ponce Martínez, "Construcción de carreteras y caminos," pp. 39-40.

in 1930.[28]

In the south the same problem of choice of routes occurred. Harry Hart, a North American consultant engineer, accompanied by national engineers, presented reports on possible routes through Azuay and Loja.[29] The government was beset by problems of a political nature in the choice of route. As Albert Franklin observed during his sojourn in Loja: "Every landowner and solid citizen of Loja feels a personal interest in the road and is a partisan of one of the routes."[30]

Construction of the highway between Cuenca and Loja was completed by 1943.[31] No decision could be reached, however, on the route from Loja to Macará. One trail led westwards through Catacocha and another more directly south through Cariamanga. The reports of the Ministers of Public Works from 1949 to 1952 all referred to the urgency of deciding on one route to which all resources could be applied, but the southern towns continued to disagree over the

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[28]Jervis, "Rutas carrozables," p. 30.

[29]Harry P. Hart and Gabriel Noroña, "Informe del reconocimiento de las rutas Loja-Macará," Boletín Mensual de Obras Públicas, V, Nos. 56-58 (1940), 102-103; Harry P. Hart and Ezequiel Robalino, "Carretera Cuenca-Loja. Informe de la sección Cumbe-Saraguro," Boletín Mensual de Obras Públicas V, Nos. 56-58 (1940), 104-110; Luis A. Miño Terán and Harry Hart, "Reconocimiento de las rutas para la Carretera Panamericana," Boletín Mensual de Obras Públicas, VI, No. 59 (1943), pp. 96-99.

[30]Franklin, Ecuador, p. 157.

[31]Jorge Luna Yepes, Síntesis histórica y geográfica del Ecuador. (Madrid: published by author, 1951), p. 114.

route and so delay the completion of a road to the frontier.[32]

The Pan American Highway in Ecuador is 620 miles long.[33] By 1938 about 415 miles had been completed;[34] in 1954 the road was still not ready for traffic in its entirety.[35] Most of the highway was cobble-stoned or unpaved. In 1970 construction was still underway on the section north from Quito to Tulcán, and parts of the road south of Cuenca were almost impassable during the rainy season. Today most traffic to Peru follows a completely new route along the coastline.

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[32]Ecuador, Informe del Ministro de Obras Públicas, 1949-50, p. 6; 1950-51, p. 24; 1951-52, p. xx.

[33]Linke, Ecuador, p. 119.

[34]Ecuador, Informe del Ministro de Obras Públicas, 1938-39, p. 17.

[35]Fernández Alonso, "Comunicaciones en un país andino," pp. 432-33.

CONCLUSION

Many land transportation projects were conceived during the republican era to link the regions of Ecuador, and a fair number were initiated. The problems to be overcome, however, were of such magnitude that construction of roads and railways dragged out over many years, often decades, and only a few were actually completed before mid-twentieth century.

The geography of the land posed formidable physical barriers that meant large financial outlays for construction and heavy expenditure for maintenance. The economic situation of the country was rarely sound enough to bear these costs. It was partly the absence of good transportation facilities, however, that held back the development of agriculture, industry, and commerce.

Political instability also impeded the growth of transportation routes; this instability itself was to some extent a result of inadequate communications between regions. Frequently money allocated to public works was diverted to military expenditures for the suppression of internal disorders. Many laws called for construction of roads and railways, but few were implemented. For the most part only those administrations under resolute, authoritarian executives managed to overcome all obstacles and ensure the completion of urgently needed routes.

In response to the problem of political instability, local autonomous institutions were given control of particular projects. Regional interests were so vocal, however, that innumerable juntas were set up, and funds for public works were spread over many projects simultaneously. This decentralization of administration and finances may partly explain the failure to complete at least a few of the major routes.

Whereas the Incas had concentrated their roadbuilding efforts on the route north along the Sierra, the mercantilistic Spanish colonists and republican Ecuadoreans were interested in routes leading from the highly populated Sierra to Pacific ports. For about a century after independence the highway along the Sierra--later to be called the Pan American Highway--was given little attention, the northern and southern provinces preferring links with the coast rather than with the central provinces. Only trails led eastward from the Sierra into the Oriente, except for the road from Ambato to Baños which followed the path of the short-lived Ferrocarril al Curaray.

Roadbuilding projects between the Sierra and the Coast in the nineteenth century amounted to little, although some improvements on the Guayaquil-Quito route were accomplished during the administrations of Gabriel García Moreno and Antonio Flores. In the last decades of the century a flood of railways was projected to join the highland provinces with various ports on the Pacific coast. Of all the proposed

lines, only the Ferrocarril del Sur, from Durán, opposite Guayaquil, to Quito, was completed before the mid-twentieth century. The other lines that started from the coast came to serve only the hinterland, and the lines that connected with the Ferrocarril del Sur (Quito-Esmeraldas, Sibambe-Cuenca) did not reach their destinations until 1957 and 1964.

Lack of capital and loss of interest on the part of European contractors after the outbreak of World War I were primary causes for the little progress in railroad construction. With limited funds and a small population concentrated in the highlands, such a far-flung rail network was in reality too ambitious. Railroads projected through sparsely populated areas to small, undeveloped port towns could hardly prove to be a profit-yielding investment. Nor was it probable that the highlands could suddenly increase their agricultural output from a basically subsistence level to large-scale production for export.

After the first quarter of the twentieth century, interest turned from rails to automobile roads. Construction of highways was slow until the 1950s, when foreign loans became available for roadbuilding and maintenance programmes.

Unfortunately, roads were built where railroads already existed. The railways, mostly incomplete or only short lines, were not properly maintained and could not compete with new highways which ran parallel. Consequently, the railways operated at a deficit, and the tracks of the Ambato-Pelileo and Guayaquil-Salinas lines were taken up.

By 1955 the major railroad, the Ferrocarril del Sur, was on the verge of collapse. It was evident by this time that a comprehensive, coordinated transportation plan was of national priority.

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